

Exploring the experiences of women who go on to develop restrictive eating  
behaviours after bariatric surgery

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## **Abstract**

There is a growing body of research looking at the development of eating disorders after bariatric surgery. However, there has been limited focus on the increasing number of people who develop more restrictive eating disorder patterns after surgery. Distinguishing between eating disorder related thoughts and behaviours, and changes in eating patterns that are a consequence of the surgery is complex. Furthermore, their weight loss if viewed in isolation of their disordered eating, may be interpreted by others (including team members) as highly successful. The development of problematic eating behaviours is linked with complications after surgery and has a harmful impact on psychological wellbeing. This study focused on the experiences of women who met the criteria for restrictive eating behaviours following weight loss surgery and provides much needed information to understand this phenomenon further.

A qualitative semi-structured interview was conducted with five participants. The data was analysed using Interpretative Phenomenological Analysis (IPA). Five super-ordinate themes emerged: 1.The past and how I feel about myself; 2.The impact of loose skin; 3.Thoughts about food and disordered eating patterns; 4.The role of relationships; and 5.Surgery is life changing. These captured the impact of past weight related experiences, intense fear of weight gain, negative cognitions about the self, the consequences of excess skin, changes in the way food was thought about, restrictive eating behaviours, professional and personal relationships, the impacts of surgery, and the importance of information.

Individuals with problematic restrictive eating behaviours are increasingly presenting to bariatric surgery services. This, in part, led to the removal of specific weight criterion in the DSM-V criteria for Anorexia Nervosa. The findings of this study give voice to women who are experiencing these difficulties, shed light on possible early warning signs, and highlight important implications for clinical practice, including the importance of psychological follow-up following surgery.

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# **Chapter 1: Introduction**

## **Overview**

Chapter One describes the prevalence of obesity and introduces weight loss surgery to the reader in order to provide an understanding of the surgical procedures involved, as well as the required modifications to a person's eating. Literature looking at the relationship between eating disorders and weight loss surgery is reviewed, before moving on to studies that explore restrictive eating disorders specifically. The rationale for the current study is then provided.

The research methodology, including the rationale for choosing Interpretative Phenomenological Analysis (IPA), details of the participant sample, data collection and analysis are discussed in Chapter Two.

Following this, Chapter Three offers a narrative account of the results using quotations from participants to illustrate the 14 sub-ordinate themes which represent five super-ordinate themes: 1. The past and how I feel about myself, 2. The impact of loose skin, 3. Thoughts about food and disordered eating patterns, 4. The role of relationships, and 5. Surgery is life changing.

Chapter Four discusses the results in relation to the research question, general study aims, and existing literature and theory. The study is then critically evaluated and implications for future research and clinical practice are discussed.

## Obesity

Obesity is reaching epidemic proportions with more than half the adult population being overweight or obese in England. The United Kingdom is ranked amongst the highest (8<sup>th</sup> out of 34 Organisation for Economic Cooperation and Development (OECD) countries) in terms of prevalence of overweight (including obesity) for men and women combined, as well as prevalence of obesity for men and women combined (after countries such as Mexico, Chile, New Zealand and the United States) (Department for Work and Pensions (DWP), 2016; Ng et al., 2014; Public Health England, 2016a; Yeo, 2017). Public Health England (2016b) reported that 66.4% of men and 57.5% of women aged over 16 are overweight or obese, while one in four men (24.9%) and women (25.2%) are classified as obese, that is having a Body Mass Index (BMI) of 30kg/m<sup>2</sup> or more (See Appendix 1 for National Institute for Health and Care Excellence (NICE) classification of obesity). Over the last 30 years obesity has been increasing and there has been a sharp increase in the percentage of men and women who are classified as severely obese, that is having a BMI of 40kg/m<sup>2</sup> or more (DWP, 2016; Public Health England, 2016b). It is estimated that in the UK almost three out of four adults (72%) will be overweight or obese by 2035 (Cancer Research UK, 2016; DWP, 2016).

Obesity reduces life expectancy and can lead to chronic and severe medical conditions (DWP, 2016). It is linked to a number of health issues including type II diabetes, hypertension, colorectal cancer, and coronary heart disease, which amplify and exacerbate the problem, as well as psychological and psychiatric difficulties (NICE, 2016; Yeo, 2017). Public Health England (2016b) compared data between

1993 to 1994 and 2013 to 2014. They found that a larger proportion of the adult population are now at increased, high, or very high risk of obesity related ill health than in 1993 to 1994. It is estimated that women who are obese are roughly 13 times more likely to develop type II diabetes, while men who are obese are roughly five times more likely, compared to those who are not obese (Health and Social Care Information Centre, 2011; National Audit Office, 2001). Obesity has been linked to 10% of all non-smoking cancer deaths and severely obese people have a life expectancy 11 years less than healthy-weight individuals (Office of Health Economics, 2010). Weight loss reduces the risks of co-morbidities and improves people's long-term survival (NICE, 2012). In 2007, the Department of Health estimated that overweight and obesity cost almost £16 billion (more than 1% of gross domestic product). It is estimated that the cost to society and the economy could rise to just under £50 billion in 2050 if obesity rates continue to rise at the current rate (NICE, 2016).

## **Bariatric Surgery**

The NHS obesity pathway consists of a series of tiered services. Tier 1 and 2 consist of non-surgical measures including dietary advice, exercise, lifestyle changes and medication. Tier 3 involves weight management multi-disciplinary team interventions, while obesity surgery (or bariatric surgery as it will be described here) falls under Tier 4 services (NHS England, 2014). Surgical procedures restrict the size of the stomach and may also reduce a person's capacity to adsorb food. Examples include Roux-en-Y gastric bypass or biliopancreatic diversion (Conceição, Utzinger, & Pisetsky, 2015; NICE, 2012). In the UK the most commonly used procedure is a

gastric bypass; but use of the gastric sleeve is becoming more frequent. Gastric banding is still used but not that often and is more common in private surgical services, while the duodenal switch is rare (NICE press release, 2014).

These different surgical procedures all require significant modifications in a person's eating behaviour in order to maintain weight loss (Bocchieri, Meana, & Fisher, 2002a). In the first few weeks after surgery individuals are required to follow a texture progression diet starting with liquids and then moving on to puree, soft, and then solid foods. Portion sizes are significantly reduced and people are often encouraged to weigh their food and strictly control their calorie intake. Following surgery, certain food types (for example, very sweet foods) and certain eating habits (for example, eating too fast or not chewing food enough) can cause pain and self-induced or spontaneous vomiting. These behaviours are not compensatory behaviours, like those typically seen in eating disorders such as bulimia nervosa, as they are not carried out for weight control reasons. These behaviours typically develop in an effort to avoid physical discomfort or in a reaction to plugging - where food gets stuck in the small opening to the stomach (de Zwaan et al., 2010) – or dumping syndrome (similar to hypoglycemic episode) – when food moves too fast from the stomach to the first part of the small intestine (Conceição et al., 2013b; NIDDK, 2013).

Behaviours such as restricting food intake and food avoidance may be necessary adjustments to post surgery life. However, they may misleadingly resemble an eating disorder due to the similarities with behaviours seen in people with classic eating disorders, such as anorexia nervosa (APA, 2013; Conceição et al., 2013; Lautenbach, Kulinna, Löwe, & Rose, 2013).

Bariatric surgery is a recommended treatment option for obesity (NICE, 2014), frequently resulting in significant weight loss; and is the treatment of choice (rather than lifestyle interventions or drug treatment) for adults with a BMI of more than 50kg/m<sup>2</sup> when other interventions have been unsuccessful (Niego, Kofman, Weiss, & Geliebter, 2007; Ramalho et al., 2014). It is associated with improvements in overall mortality, obesity related co-morbidities, psychosocial status (self-esteem, depressive symptoms, body image, social relations, and employment), and health-related quality of life (Baillot, Asselin, Comeau, Méziat-Burdin, & Langlois, 2013; Sjöström et al., 2007). Bariatric surgery has also been recommended for people who are obese and have recent-onset type II diabetes, as it leads to remission in roughly 80% of cases, resulting in significant savings to the NHS due to the subsequent reduction in diabetes medication (Sjöström, 2012). In 2013, over 3.2 million adults were diagnosed with diabetes, and of those roughly 90% had type II (NICE, 2015). Bariatric surgery is dramatically increasing in frequency, with Public Health England's obesity knowledge and intelligence team reporting a rise in surgery from roughly 470 in 2003/4 to over 6500 in 2009/10, while the United Kingdom National Bariatric Surgery Registry (NBSR) (2014) reported that 32,073 operations had been recorded from 137 hospitals between 2011 and 2013. These figures will probably continue to grow due to obesity (and type II diabetes) rising up the NHS agenda of importance (BPS, 2011; NHS England, 2015; Porter, 2017; Soldin, Mughal, & Al-Hadithy, 2014).

## **Eating Disorders and Bariatric Surgery**

Due to the medical risks and increased mortality associated with morbid obesity, an effective treatment is of vital importance. Bariatric surgery is regarded as one of the most effective treatments for severe obesity. Despite this there is considerable variability in the literature regarding weight loss outcomes (Bocchieri et al., 2002a; Conceição et al., 2015). Bariatric surgery is not without risk and can be a cause for disappointment. In some cases weight may increase, with 20% of people going on to regain significant weight post surgery (Baillot et al., 2013; Sjöström, 2012; van Hout, Boekestein, Fortuin, Pelle, & van Heck, 2006). Research attention is increasingly being given to maladaptive eating patterns due to their influence on the outcomes of bariatric surgery, with links to reduced weight loss and greater weight gain (Baldofski et al., 2015; Hsu, Betancourt, & Sullivan, 1994; van Hout, 2005; Meany, Conceição, & Mitchell, 2014).

Eating pathology is common before and after bariatric surgery, with a significant amount of people reporting unhealthy and problematic eating behaviours before bariatric surgery (Mitchell et al., 2015). Dahl et al. (2010) suggest that 32.5% of people waiting for bariatric surgery have an eating disorder. Research looking at the links between pre-surgery eating patterns and surgical outcomes has mostly focused on Binge Eating Disorder (BED) as it is considered the most common (Colles, Dixon, & O'Brien, 2008; Dahl et al., 2010). However, other maladaptive behaviours have also been examined, such as “loss of control” eating, grazing, and night eating syndrome (Conceição et al., 2013a; Meany et al., 2014; van Hout, 2005).

Due to methodological inconsistencies in the literature, such as variation in definitions of eating disorders and assessment measures used, the frequency of these

maladaptive eating behaviours and their relationship with weight outcomes in bariatric surgery has been mixed and difficult to determine. Some studies have suggested that binge eating status predicts weight loss after bariatric surgery, while others have reported that binge eating status before surgery does not predict weight loss (Conceição et al., 2014b; Wimmelmann, Dela, & Mortensen, 2014).

The criteria for BED has been in transition, and has only existed as a psychiatric disorder since 2013 when DSM-V was released (APA, 2013; Dawes et al., 2016) (see Appendix 2 for DSM-IV and DSM-V BED criteria). In addition to this, symptoms may be minimised or underreported due to denial or concern about the impact of disclosure on surgery eligibility, further leading to inaccurate estimates (Conceição et al., 2015). For example, Mitchell et al. (2015) suggested that 2% of participants in their study, who had already been cleared for surgery, met the DSM-V criteria for bulimia nervosa. However this number may be even higher due to lack of reporting, as identification of bulimia nervosa would probably deny or delay surgery until after it had been treated. Van Hout (2005) found that vomiting was one of the most common complications following bariatric surgery, with a prevalence rate of over 70%, and was one of the main causes of postoperative complications and poor weight loss.

Mitchell et al. (2015) looked at 2,266 participants of the Longitudinal Assessment of Bariatric Surgery-2 (LABS-2) study. They found that loss of control eating (characterised by eating continuously during the day/parts of the day without planning what and how much to eat, and experiencing a feeling that they could not control their eating) was reported by 43.4%; night eating syndrome was reported by 17.7%



(characterised by evening hyperphagia i.e. consuming about half or more of their daily food intake after supper time, or nocturnal eating i.e. getting up in the middle of the night to snack); and 15.7% met the criteria for BED.

Many people who develop difficulties with binge eating or loss of control eating post bariatric surgery have a history of BED before surgery (Mitchell et al., 2015; Niego et al., 2007). A systematic review by Dawes et al. (2016) suggested a prevalence rate of 17% for BED among people seeking and undergoing bariatric surgery. People who go on to develop binge eating/loss of control over eating after surgery experience less weight loss and/or more weight regain. A review by Meany et al. (2014) suggested prevalence rates of between 14-56% of BED/binge eating in bariatric surgery clients.

However, it has been suggested that eating behaviour post surgery may be a more important indicator of surgical weight loss than preoperative eating behaviours (Burgmer et al., 2005; Wimmelmann et al., 2014). White, Kalarchian, Masheb, Marcus, & Grilo (2011) found that Loss of Control was reported in 61% of their patients pre-surgery. Although this was not a negative prognostic indicator for post bariatric surgery outcomes, post-surgery, the presence of loss of control eating was a predictor of significantly poorer weight and psychosocial outcomes at 12 and 24 months follow-ups post-surgery. They conclude that it is less a matter of eating behaviour and pathology before surgery that is pertinent for post-surgery weight loss, more the changes in eating behaviour and pathology after surgery that is important.

Loss of control eating is one of the criteria for BED, as well as ingesting an objectively large amount of food in one episode of eating. Due to the gastric

restrictions following surgery making it difficult to consume large amounts of food, it has been suggested that post-surgery grazing may serve a similar function to binge eating as well as the consumption of large amounts of soft or liquid calorie-dense food (Colles et al., 2008; Conceição et al., 2013a; van Hout et al., 2006). Graze eating can lead to suboptimal weight loss outcomes, and is a new area of investigation in eating disorder and bariatric surgery research. Currently, there is no formal criterion for grazing, and different terms have been used interchangeably (Goodpaster et al. 2016). Conceição et al. (2014a) proposed a standardised definition for grazing as “*an eating behaviour characterised by the repetitive eating of small/modest amounts of food in an unplanned manner and/or not in the response to hunger/satiety sensations*”. They also proposed two subtypes: compulsive grazing (person is not able to resist eating, and returns to the food even if not intending too) and non-compulsive grazing (person eats in a distracted way over a long period). Their findings suggested that grazing was a frequent behaviour in severely obese people who were undergoing or had undergone bariatric surgery, with a frequency of 59.8%. Goodpaster et al. (2016) suggest that bariatric clients may use graze eating as a coping/avoidance strategy for affect regulation. Conceição et al. (2014b) also highlighted the importance of clinicians monitoring picking and nibbling behaviours, as they may be dismissed due to not being associated with the core pathology of eating disorders, however the presence of these behaviours was associated with weight regain after bariatric surgery.

## **Restrictive Eating Disorders and Bariatric Surgery**

Research attention on maladaptive eating patterns, in relation to bariatric surgery, has tended to focus on loss of control and graze eating. There has been limited focus on the increasing number of people who are developing more restrictive eating disorder patterns. Increasingly clinicians are starting to see post-surgery clients who are clearly starved, defined by evidence of malnutrition, but have a BMI over 17.5kg/m<sup>2</sup> and 18.5kg/m<sup>2</sup>, which historically have been clinical indicators of a person being underweight or anorexic.

The restrictive eating requirements that are necessary post bariatric surgery are strongly associated with extreme weight loss; and the importance of self-control is often encouraged by professionals, as well as by society and family (Conceição et al., 2013b). Research has suggested that the changes experienced following bariatric surgery (i.e. rapid weight-loss and dietary restraint) may trigger, or lead to the development of, restrictive “anorexia nervosa-like” eating pathology irrespective of the pre-operative status. This is characterised by greater than usual weight loss after surgery, fear of weight regain, dietary restriction, and disturbances in self-perception of shape and weight (Conceição et al., 2013b; Conceição et al., 2015; Guisado et al., 2002; Marino et al. 2012).

Anorexia nervosa and morbid obesity are often viewed as opposite ends of the eating disorder spectrum. However, the research literature suggests that eating disorders and obesity may be “two sides of the same coin”. It has been suggested that people who are obese may share some common etiological, psychological, and social features with people who have anorexia nervosa. These include similar cognitive functioning and similar family background, with both at risk of developing an eating disorder

when dieting (Atchinson, Wade, Higgins, & Slavotinek, 1998; Brone & Fisher, 1988; Guisado et al., 2002; Day, Ternouth, & Collier, 2009).

Atchinson et al. (1998) detailed clinical profiles, treatment and outcomes for two female clients who developed anorexia nervosa in the year following gastric stapling surgery for morbid obesity. They considered anorexia nervosa and morbid obesity as being different expressions of similar psychosocial difficulties. They suggested that a subgroup of morbidly obese people could be at risk of developing anorexia nervosa during weight loss and highlighted dependency issues and the use of food as a distraction for underlying negative affects as particular risk factors.

Due to the under-researched nature of this area, the estimated prevalence of restricted eating disordered behaviour after bariatric surgery is unknown, however these types of presentations are becoming more common (Conceição et al., 2013a). This increasing frequency played a role in the low body weight requirement in the criteria for anorexia nervosa being removed for DSM-V by the Eating Disorder committee, and the introduction of a broader term looking at the restriction of energy intake (APA, 2013; J. Mitchell, personal communication, November 11 2015) (see Table 1).

Although DSM-V has removed the low body weight requirement for anorexia nervosa, there is still debate as to whether a separate diagnosis is required for disordered eating behaviours that develop after bariatric surgery. This is due to the need to differentiate between unhealthy behaviours and cognitions; and the specialised nutritional needs of these clients due to the alterations of their gastrointestinal system. Behaviours that may seem eating-disordered may be part of

the normal adjustment and adherence to post-surgery life (Conceição et al., 2013a; Marino et al., 2012). In anorexia nervosa it is common to see restriction or avoidance of certain types of food and ritualistic behaviour around how food is eaten. These behaviours are also seen in individuals after bariatric surgery. Frequently certain foods can no longer be tolerated and eating becomes ritualised with meals planned at certain times, food weighed carefully and documented, and eaten in a specific way such as having very small mouthfuls of food, excessive chewing, cutting food into very small pieces, eating small amounts of food at a time, and eating and drinking separately (Atchison et al., 1998; Conceição et al., 2013a).

Table 1. *DSM-V anorexia nervosa criteria*

<b>A.</b>	Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
<b>B.</b>	Intense fear of gaining weight or of becoming fat, or persistent behaviour that interferes with weight gain, even though at a significantly low weight.
<b>C.</b>	Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

In 2004 Segal, Kussunoki, & Larino proposed a new diagnosis “Post-Surgical Eating Avoidance Disorder” (PSEAD) (see Table 2 for proposed criteria). They described five post-bariatric surgery female cases with normal BMIs, who, although they did not meet the full DSM-IV (APA, 2000) criteria for anorexia nervosa (missing the

weight requirement) or bulimia nervosa (missing the binges or binge frequency requirement), all showed signs of malnutrition. They presented with a distinct change in their relationship with food, which was linked with an intense fear of regaining weight, as well as negative changes in the way that they experienced their bodies.

Table 2. *Segal et al. 's proposed criteria for PSEAD (2004)*

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<b>1</b>	A previous history of morbid obesity followed by bariatric surgery over the last 2 years
<b>2</b>	Higher speed of weight loss than the average usually associated with the technique employed, upon the diagnosis of changes in eating behaviour
<b>3</b>	Use of purgative strategies or excessive reduction of food intake, related or not to binge-eating episodes
<b>4</b>	Reaction of extreme anxiety and/or active negative attitude when nutritional correction is introduced, which can be evidenced by: <ul style="list-style-type: none"> <li>a) Intense fear of going back to the preoperative weight and/or</li> <li>b) The patient does not accept orientation to interrupt the weight loss and/or</li> <li>c) The patient denies doing something exaggerated that accounts for this loss and/or</li> <li>d) The patient perceives a positive return in the loss of weight, in spite of evidence to the contrary</li> </ul>
<b>5</b>	Body image dissatisfaction or distortion
<b>6</b>	Follow-up nutritional tests (such as laboratory tests) alterations that are significant and/or not in line with the surgical technique, maintained for more than 2 months after initial interventions
<b>7</b>	Exclude Anorexia Nervosa and Bulimia Nervosa according to DSM-IV
<b>8</b>	Exclude Simple Phobias (i.e., Food or Choking Phobia) according to DSM-IV
<b>9</b>	Exclude organic causes as the most probable factor for excessive weight loss
<b>10</b>	Mandatory criteria: 1, 2 or 3, 4, 6, 7, 8, and 9

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In addition to eating behaviours, assessing weight and shape concerns is also more complicated after bariatric surgery. For example – fear of weight (re)gain is probably quite realistic in this population, compared to the unrealistic views of possible weight gain classically seen in people with anorexia nervosa. In addition to this, the majority of people seeking bariatric surgery have a yo-yo pattern of dieting and weight loss, characterised by multiple experiences of losing large amounts of weight and then regaining it (Conceição et al., 2015). Weight is strictly monitored by professionals at each clinic appointment and is used as a key outcome measure, so it is understandable that individuals with a psychological vulnerability may become preoccupied with weight loss (Atchison et al., 1998). Shape concern will also differ to those seen in other populations due to the common presence of hanging, loose, overstretched skin, skin envelopes and fat deposits due to the rapid weight loss that follows bariatric surgery (Ramalho et al., 2014). Over 70% of clients who have bariatric surgery will develop excess skin, and it is affected by the amount and speed of the weight loss (Giordano, Victorzon, Koskivuo, & Suominen, 2012). It is commonly located in the abdomen, upper arms, thighs, abdomen and is associated with negatively impacted quality of life, as well as multiple complications such as fungal infections, abdominal and back pain; problems with personal hygiene, movement, and urination; difficulties in physical activity, dressing, and sexual functioning (Baillot et al., 2013; Björserud, Olbers, & Olsen, 2011; Kitzinger et al., 2012).

Another confounding issue in this area is establishing what is considered a “normal” or ideal BMI after bariatric surgery and what should be considered an underweight BMI. Conceição et al. (2013a) reported a client that presented with a BMI of  $23.8\text{kg/m}^2$ , which was considered to be unusually low due to it being rare for people

to achieve a BMI below 25kg/m<sup>2</sup> after surgery. Fandiño et al., (2005) gave details of a client who, after having a gastric bypass, developed Wernike-Korsakoff syndrome due to a long period of self-imposed starvation. Following the surgery this gentleman developed an intense fear of weight regain, which led to a highly restrictive diet being imposed. It has been debated that for people who have been severely obese (BMI over 50kg/m<sup>2</sup>), getting to a BMI of 25kg/m<sup>2</sup> is extremely unlikely to be achieved and may be accompanied by evidence of malnutrition, even though it is a BMI that is considered “normal” weight (Conceição et al., 2013a; Baltasar et al., 2011; Torgerson & Sjöström, 2001).

To date, the limited research looking at the development of restrictive eating behaviours after bariatric surgery has consisted of case studies and reports. A summary of which follows below.

Bonne, Bashi, & Berry (1996) wrote about two male cases who had undergone gastroplasty due to being severely obese, and went on to develop anorexia nervosa. They presented with impaired body image, which led to sustained diet restriction (300-400 calories per day) and deterioration in their health (for example dizziness, fatigue, and hormone abnormalities). They recommended that clinicians conduct psychiatric evaluations before bariatric surgery and consider elements that may make individuals more susceptible to developing anorexia nervosa.

Scioscia, Bulik, Levenson, & Kirby (1999) described the development of anorexia nervosa (BMI 16.2kg/m<sup>2</sup>) in a female subject following gastric bypass surgery (BMI 56kg/m<sup>2</sup>). Shortly after the surgery the lady became preoccupied with losing weight



and began using 100 stimulant laxatives daily. She alternated between complete fasting and eating only toast and lettuce, and reported vomiting up to five times a day. Scioscia et al. recommended pre-surgical screening for the presence of bingeing, purging and lifetime anorexia nervosa, but also highlighted that clients with eating disorders can be secretive about their behaviours, and may be more so if divulging such information could compromise their suitability for bariatric surgery. They recommended that care should be taken to not praise a patient for excessive exercise or losing more weight than projected.

Guisado et al. (2002) describe two morbidly obese women who developed anorexic-like symptoms after weight loss due to an intense fear of regaining weight. In the first case the symptoms presented after bariatric surgery and included obsessive behaviours (rigid timetable, ritualized daily habits, and rumination), excessive worry about reaching a weight that was below what was suitable for her age and size, intense obsessive thoughts regarding excess skin, food restriction, food avoidance, self-induced vomiting and diuretic misuse. In the second case, the symptoms were triggered by a strict diet over a three-year period, which saw her BMI reduce from 51.1kg/m<sup>2</sup> to 18.4kg/m<sup>2</sup>. Symptoms included an intense discomfort with food, avoidance of a number of foods, a view that she was fat, an intense wish to be thin, and a general unhappiness with her body. She had daily episodes of binge eating, but no other compensatory strategies except dieting. Building on the case studies of Boone et al. (1996) and Atchison et al. (1998), Guisado et al. identified risk factors for morbidly obese people developing anorexia nervosa. These included extreme morbid obesity, emotional withdrawal during childhood, low self-esteem, severe and rapid weight loss, intense body image dissatisfaction, social isolation, and use of food

to compensate negative feelings. They identified the need for psychiatric evaluation of all clients with morbid obesity seeking treatment from weight loss services in order to detect vulnerability factors that may lead to psychiatric complications.

Deitel (2002) contributed to these reports and anecdotal data with an editorial stating that in a series of 2,800 patients who had bariatric surgery, two subjects lost weight as predicted and then slowly slipped into anorexia nervosa. These cases refused to eat, and even though they were emaciated, still considered themselves to be obese and wanted to lose more weight.

Marino et al. (2012) reviewed the literature looking at the development of what they called “classical clinical eating disorders” after bariatric surgery, that is anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified (EDNOS). They reviewed 22 case studies reporting a range of eating disorder related behaviours. These included bulimia nervosa, binge eating, self-induced vomiting, daily calorie intake restriction, laxative use, excessive exercise, and body image distortion. They recommended that professionals provide psycho-education about eating disordered thoughts, beliefs, and behaviours in order to help clients recognise disordered eating patterns, body image distortions, and the influence of shape and weight before negative medical effects occurred and before diagnosable eating disorder symptoms become present.

Conceição et al. (2013b) described three female cases where, following bariatric surgery, overly restrictive behaviours and an increasing fear of weight regain had emerged. Two of the cases met the diagnostic criteria for anorexia nervosa (except for

the BMI) or presented with anorexia nervosa-like symptoms, while the third met the criteria for bulimia nervosa. Despite the improvement in weight, the psychopathological features of eating disorders significantly impacted and compromised the women's lives.

Lautenbach et al. (2013) reported the case study of a 49-year old female who required a lung transplant but needed to lose 100kg of body weight as she presented as morbidly obese with a BMI of 50.3kg/m<sup>2</sup>. A one-stage sleeve gastrectomy did not provide sufficient weight loss; so duodenal switch surgery was performed. Over a period of two years the lady was admitted to hospital twice with symptoms of malabsorption and a decreasing BMI from 21.2kg/m<sup>2</sup> to 19.5kg/m<sup>2</sup>. Two years after the surgery the lady presented to services with a BMI of 17.3kg/m<sup>2</sup> and remaining symptoms of malabsorption. She reported restrictive food intake and fat avoidance due to a perceived intolerance. The woman described her eating behaviours as adherence to previous nutritional counselling recommendations. Her thoughts focused on weight loss, potential health risks and her eating behaviours, and she presented with low self-esteem, social withdrawal, and signs of obsessive personality traits. A history of laxative abuse was also suspected. After two weeks of inpatient psychotherapy support, a history of continuous binge eating behaviour, leading to obesity, was revealed. The authors highlighted the importance of a pre-surgical assessment for psychiatric symptoms, including dysfunctional eating behaviours. Pre-existing binge eating was not picked up in this case which seemed to be the basis for the overweight and the underweight presentation. They recommended the need for ongoing physical and mental health monitoring, both pre- and post surgery and spoke about the challenge of distinguishing between eating disorders and postsurgical

malabsorption; where increased weight loss due to the surgery and post-surgery restricted eating behaviours could trigger anorexic or bulimic symptoms.

Conceição et al. (2013a) reviewed the clinical charts of 12 individuals who had undergone bariatric surgery and gone on to be hospitalised on an inpatient eating disorders unit between 2008 and 2012. On admission to the unit eating disorder symptoms included extreme dietary restriction (less than 400 calories a day) ( $n = 10$ ), significant fear of weight gain and/or persistent behaviours that interfered with weight gain ( $n = 10$ ), and binge eating at least once a week in the previous three months ( $n = 3$ ). Based on DSM-V criteria for anorexia nervosa (APA, 2013) six of the clients would meet the criteria for anorexia nervosa, and four would meet the criteria for atypical anorexia nervosa (due to having a normal weight). Two people were diagnosed with bulimia nervosa using the DSM-V criteria (from DSM-IV to DSM-V the frequency of the occurrence of binge eating episodes and compensatory behaviours went from twice a week, to once a week in the past three months). Interesting to this study, was the way the criteria changes from DSM-IV to DSM-V allowed for a better characterization of the eating disorders. Using DSM-V four cases, rather than seven using DSM-IV were classified as eating disorder not elsewhere classified (atypical anorexia nervosa). Excessive influence of body weight/shape on self-evaluation and over-evaluation of body weight/shape were present in all clients.

## **Contributing Factors**

Due to the infancy of this area it is not currently clear what theoretical concepts best support and explain the development of restrictive eating behaviours after bariatric

surgery. Certain pre-morbid vulnerabilities have been highlighted regarding the development of anorexia nervosa, and there may be commonalities in aetiology for the disordered eating that leads to anorexia nervosa and obesity (Day et al., 2009). Both of these conditions will be described for each of these concepts.

### **Societal Narratives**

The study of eating disorders has historically been heavily concentrated in Western countries, however their increasing emergence in Asia has illuminated the complex interplay between culture and eating disorders. Rapid economic and socio-cultural changes, including exposure to media and a strong imposed thin ideal; changes to food supply (i.e. overall increase in the accessibility of food) and diet (i.e. more fast food, prepared and processed foods, and foods that have high fat, sugar and salt content), rising incomes, and changing gender roles have all influenced the rise in eating disorders and obesity (Becker et al., 2014; Makino, Tsuboi, & Dennerstein, 2004). Transmission of a ‘thin body ideal’, leads to body dissatisfaction, dieting and eating disorders, and is often accompanied by the idea that improvement of the physical body through diet and exercise gives an individual a certain level of control that is in some way essential to achieving his or her ideal (Pike & Dunne, 2015).

*“Just as messages are received about thinness, so too are attitudes about fat”* (Levitt, 2006, p.224). In many cultures it is socially undesirable and stigmatising to be obese. A commonly held belief is that weight can be controlled and obesity is a manifestation of character deficits such as being lazy, gluttonous, unattractive, intellectually slow, socially inept and lacking in self-esteem (Carels & Musher-

Eizenman, 2010; Crandall, 1994; Flint, 2015; Pike & Dunne, 2015; Vartanian, Polivy, & Herman, 2004). Indeed even health professionals have reported beliefs that obesity is controllable (Swift, Hanlon, El-Redy, Puhl, & Glazebrook, 2013). These stereotypes and perceptions of personal responsibility seem to give the general public carte blanche to be openly unkind to those who are considered obese (Bocchieri et al., 2002a; Smethurst & Kuss, 2016). The widespread stigma of obesity may interact with early experiences and play a factor in the development of restrictive behaviours. Stigma can continue even after weight loss, as seen in the common theme “*be careful who you tell because the stigma continues*” from Earvolino-Ramirez’s (2008) case study of a post bariatric surgery woman. This captured an experience of pre-surgery stigma due to being obese, as well as stigma attached to the way people perceived her in regard to her method of weight loss.

Friedman, Ashmore, & Applegate (2008) showed that recent weight stigmatising experiences in a weight-loss surgery population were associated with psychological distress such as depression, anxiety, phobic anxiety, lower self-esteem, and body image. Wee, Davis, Huskey, Jones, & Hamel (2012) provided further evidence for the harmful effects of weight based stigma. They explored the quality of life (QoL) of 574 obese patients who were seeking bariatric surgery. They found that public distress or social stigma associated with obesity was one of the most important factors contributing to a reduced QoL among obese patients, especially those with severe obesity.

The strong negative evaluation of overweight may be explained by viewing anorexia nervosa as a “fat phobia” or a fear of fatness. The core fear and cause of anxiety

would be gaining weight and the main trigger of this fear would be eating. In an attempt to avoid anxiety people eat restrictively, avoid certain foods, and may exercise compulsively (Levinson, Rapp, & Riley, 2014). The phobic-like cognitions (i.e. fat is something to be avoided) may stem from previous pressures for weight control or weight loss, or a negative image of fatness originating from a very close person (e.g. parents, peers or partners) at a sensitive moment in that person's life (Levitt, 2006). Chernyak & Lowe (2010) demonstrated that chronic dieting in normal weight restrained eaters was motivated by a fear of fatness rather than a desire to become thin. While Cserjesi et al. (2010) found that participants with anorexia nervosa attributed a more negative value to fatness, both implicitly and explicitly, than healthy controls; suggesting that the main drive for the restrictive eating behaviours was a strong negative evaluation of overweight, rather than a positive evaluation of ultra thin role models.

Gender may also be a factor, with women currently being over-represented in both eating disorders and obesity. This may be due to different socio-cultural pressures on body shape, particularly in relation to body dissatisfaction seen in women. Portrayed standards of female beauty may suggest that thinness is one of the most desirable conditions and achievement of a slender body is essential for happiness. Thinness represents an ideal to which one strives, while fat holds derogatory consequences so is feared and avoided. In line with learning theory, drive for thinness and fear of fat may represent approach and avoidance tendencies. People engage in behaviours that offer positive reinforcement such as attention and admiration and avoid negative consequences such as teasing, shaming or discrimination. In the literature, there is evidence that eating disorders and obesity share risk factors including dieting, media

exposure, body image dissatisfaction and weight related teasing (Day et al., 2009; Levitt, 2006).

### **Early Experiences**

The experiences gathered during a person's life can influence present experiences; they stimulate fear, confidence, physical symptoms and distress (Cassell, 1998).

Difficult and adverse early experiences may be relevant to the development of anorexia nervosa, while loss in childhood and abusive experiences have all been linked to the development of eating disorders and obesity in general (Baldofski et al., 2015; Day et al., 2009; Fairburn, Cooper, Doll, & Welch, 1999; Nicholls, Statham, Costa, Micali, & Viner, 2016; Treasure & Cardi, 2017). A commonly described psychological function of obesity has been its use as a "protection" in interpersonal relationships. A fear of intimacy leads individuals to create a "wall" (i.e. fat) and push others away. In extreme cases, individuals with a history of sexual abuse described intentionally attempting to gain weight in order to make themselves less attractive (Glinski, Wetzler, & Goodman, 2001). Anorexia, on the other hand, has been suggested as a way for individuals to avoid a normal body weight due to the adult responsibilities it symbolises, not wanting to gain weight in order to arrest the process of maturation (Lee, 2001).

Stress and other psychological risk factors or traits have been observed in both eating disorders and obesity (Day et al., 2009). Anxious avoidance of emotions has been highlighted as a predisposing factor for the development of anorexia, with an increased sensitivity to stress or negative emotions (Treasure & Schmidt, 2013).



Difficulties relating to others may also predate the illness. People with anorexia nervosa are more likely than controls to report a limited social network before illness onset with fewer social activities and less social support. Loneliness, shyness and inferiority identified from childhood and adolescence before the illness starts, as well as teasing, criticism and bullying related to eating behaviour and/or body image have been associated with increased risk of developing an eating disorder later in life. Individuals who have been overweight for a long time may also experience all of these difficulties. Increased attention to social threat and a decreased attention to social reward may act as vulnerabilities to the development of anorexia, and may stem from past experiences of weight stigma in individuals who are overweight.

Sociocultural factors are likely to only be part of the risk for obesity and eating disorders, with obesity and anorexia both being shown to have genetic heritability (Bulik, Sullivan, Wade, & Kendler, 2000; Yeo, 2017). History of parental obesity and also childhood obesity may act as risk factors for becoming overweight. While a predisposition to obesity may interact with dieting behaviours due to an association with dissatisfaction with weight, a desire to become slimmer, and psychological distress (Day et al., 2009).

### **Obsessive-Compulsive and Anxiety Traits**

Additional pre-morbid vulnerabilities in the development of anorexia nervosa may include a strong focus on the detail (rather than more global processing, i.e. being able to see the bigger picture) and cognitive inflexibility (i.e. set-shifting), with obsessive-compulsive traits and cognitive rigidity all being highlighted as predisposing factors

(Treasure & Schmidt, 2013). The rigid thinking styles seen in anorexia nervosa may be a result of neuropsychological weaknesses; neurobiological abnormalities that underlie these weaknesses have been suggested as vulnerability factors (Danner et al., 2012). Obsessive-compulsive traits not only play an important role in the development and maintenance of anorexia nervosa but also in obesity (Wu et al., 2014). Houben & Jansen (2017) found that participants who were overweight showed increased food-related preoccupations (i.e. obsessions), and more frequent compulsive behaviours with respect to food, which were rated as more distracting, less controllable, and elicited stronger emotional reactions (e.g. anxiety, guilt, distress, frustration) compared to participants with a healthy weight.

In anorexia, these factors may make a person more susceptible to societal rules and the focus on detail may make certain aspects of appearance more significant. The traits mean that once dieting behaviour starts it is undertaken meticulously and the rules become imbedded as rigid habits. As the person becomes more malnourished, brain rigidity is compounded leading to the maintenance of pro-anorexia beliefs and behaviours. Success in weight loss further leads to weight control rules and inflexibility, and so a vicious cycle develops.

The majority of people with anorexia nervosa have co-morbid anxiety disorders and often the onset of the anxiety disorder preceded the onset of the anorexia. Even those without a diagnosis of anxiety disorders reported higher levels of anxiety, harm avoidance and perfectionism than community samples (Kaye, Bulik, Thornton, Barbarich, & Masters, 2004). Meier et al. (2015) looked at the impact of anxiety disorders on the susceptibility of developing anorexia nervosa. The risk of anorexia

nervosa was significantly higher in people with diagnosed anxiety disorders compared to the general population, and the risk was even higher in those with obsessive-compulsive disorder. Strober (2004) developed the pathological fear-conditioning paradigm of anorexia nervosa to shed light on the preoccupation and fear around weight gain, which is a key feature of anorexia nervosa. Extreme fear conditioning, and greater than normal resistance to its extinction, has been cited as a maintaining factor of anorexia nervosa. Strober hypothesised that individuals with anorexia nervosa are extremely vulnerable to fear based learning, specifically around the fear of weight gain. This fear rapidly progresses to an absolute and unrelenting fear requiring food avoidance, and once crystallised is resistant to rational argument.

## **Control**

The concept of control has also been discussed in the development of anorexia nervosa since the 1970s (Bruch, 1973). People with eating disorders frequently describe the disorder as providing a sense of control or structure to their lives. Issues of control may be one of the mechanisms in which unmet psychological needs (autonomy, competence and relatedness) are linked with disordered eating. A persistent experience of unmet psychological needs may lead to an internal sense of ineffectiveness and lack of control, which interact with a characteristic sense of perfectionism and low self-esteem. Individuals then engage in eating disordered behaviours as a way to regain autonomy and competence. Eating disordered behaviours are reinforced by feelings of success, achievement and control that result from the successful dietary restriction. The link between dietary restriction and control is likely to be encouraged due to the value placed in Western societies on

dieting to control weight and shape (Fairburn, Shafran, & Cooper, 1998; Froreich, Vartanian, Zawadzki, Grisham, & Touyz, 2017).

Ogden, Clementi, & Aylwin (2006) interviewed 15 men and women about their experiences of bariatric surgery. Central to all the themes that emerged from the interviews was the concept of control. Participant's described their weight gain as a result of uncontrollable factors, and chose to have surgery due to thinking that their weight and eating were out of control and a desire to hand over control to an external force. After the surgery, the participants described developing a new sense of control over weight and eating, either from the welcomed externally imposed control, which provided a sense of release from their previous sense of responsibility, or from a new internalised sense of control.

### **Restrict-Binge Cycle**

Dieting behaviour has been shown to be predictive of both obesity and eating disorders in the long-term. Although it may seem counter-intuitive, attempts to restrict food intake may be an indicator of vulnerability for future weight gain. Lowe, Doshi, Katterman, & Feig (2013) found that when degree of weight gain was successfully predicted, dieting predicted it more consistently than measures of restraint. Patton, Selzer, Coffey, Carlin, & Wolfe (1999) found that adolescent females who dieted at a severe level were 18 times more likely to develop an eating disorder within six months than those who did not diet, and over 12 months had an almost one in five chance of developing a new eating disorder. Within this framework, people with restrictive eating disorders such as anorexia, and those who are obese could share

similar characteristics, however the only difference is how they are expressed. In anorexia nervosa, restrictive dieting may act as a mechanism due to its association with being in control (as discussed above). Dieting is positively reinforced via feelings of success and negatively reinforced through fear of weight gain, and therefore intensifies. As a result of the intensified dieting, weight decreases and the process becomes self-maintaining (Fairburn et al., 1999). In obesity, restrictive dieting may act as a mechanism due to a preoccupation with food, which may trigger overeating leading to weight gain (Pietiläinen, Saarni, Kaprio, & Rissanen, 2012).

### **Over-evaluation of shape and weight**

Cognitive-behavioural models of eating disorders highlight core psychopathology that includes an over-evaluation of shape and weight in determining self-worth (Fairburn et al., 1998; Fairburn, 2008). Repetitive body checking and body avoidance have been shown to be behavioural manifestations of this over-evaluation (Shafron, Fairburn, Robinson, & Lask, 2003). Grilo et al. (2005) found that checking and avoidance behaviours were significantly associated with over-evaluation of weight and shape in a sample of obese men and women seeking bariatric surgery, with body checking being associated with restrained eating. The monitoring that follows bariatric surgery may mimic these behaviours, triggering the restrictive eating behaviours. Grilo et al. proposed that disordered eating in this population might operate under the same core principles as seen in people with other eating disorders, including anorexia nervosa.

Social Comparison Theory (Festinger, 1954) states that individuals, who unfavourably compare themselves to an ideal, may report greater body dissatisfaction.

People with a greater tendency to compare themselves to ‘more attractive’ others are at greater risk of body dissatisfaction and eating disturbances (Corning, Krumm, & Smitham, 2006). Exposure to teasing may reinforce societal standards of the “ideal” body appearance, and may increase an individual’s tendency to critically evaluate themselves via social comparisons (Bailey & Ricciardelli, 2010).

Bocchieri et al. (2002a) reflected on whether psychological difficulties emerged around the time of weight stabilisation due to clients’ expectation that life would dramatically improve once their bodies had reduced in size. The interview data of Park (2015) suggested that participants saw bariatric surgery as a tool to achieve a better quality of life, rather than an end means to weight loss. The realisation that most pre-surgical problems (relational, financial, familial, etc.) continued post-surgery could come as a huge disappointment for some people. A tendency to attribute the majority of negative life events to their obesity may result in poor adjustment post surgery; once the weight is reduced they can no longer blame their weight for these negative events (van Hout et al., 2006). These beliefs may link in with the development of restrictive eating behaviours, notably an intense fear around regaining weight and a focus on reducing weight lower. People may attribute positive life changes to their lower weight and therefore restrict in order to avoid going back to their old weight. If life difficulties still remain, people may restrict due to the belief that if they could only get to a lower weight then life would improve.

## **Body Image**

Linked in with the “thin ideal” and concerns regarding shape and weight is the concept of body image. Body image and its links with body dissatisfaction and unhealthy weight control behaviours such as disordered or restrictive eating have frequently been explored (Gleeson & Frith, 2006; Scheffers et al., 2017).

Benninghoven, Raykowski, Solzbacher, Kunzendorf, & Jantschek (2006) found that individuals with anorexia nervosa overestimated their own body fat and perceived their bodies as too big and were dissatisfied with them. Women with anorexia nervosa were more likely to favour a thinner body image than women without an eating disorder. Vartanian, Herman, & Polivy (2005) found that restrained eaters had stronger negative explicit attitudes and beliefs about fatness than unrestrained eaters, and that these were related to the degree that sociocultural attitudes regarding fatness and thinness had been internalised.

Body image concerns are also associated with obesity and following massive weight loss. Significant dissatisfaction with one’s own body, thoughts and feelings about the body, and body experiences are often seen in people with morbid obesity, even after significant weight loss (Gilmartin, 2013). Wood & Ogden (2015) found that participants who reported successful outcomes after bariatric surgery described a process of reinvention, that is “*adopting a new ‘thin’ or ‘normal’ identity*” (p.8), and wondered if this process helped to facilitate and sustain longer-term behaviour change. This process may link in to the development and maintenance of restrictive eating behaviours through the relationship between weight-loss, excess skin and body image. People may desperately want to maintain their new identity and so develop restrictive eating behaviours, or they may develop the behaviours due to a sense that they have not been able to achieve this new identity so far due to the excess skin.

Body image may play a role in the development of restrictive eating difficulties following bariatric surgery, either in relation to the feedback that people receive from the rapid weight-loss or due to excess skin.

Price, Gregory, & Twells (2014) found that in line with previous research women who were seeking bariatric surgery experienced preoperative body image dissatisfaction. They also found that their postoperative body shape expectations did not correspond with evidence-based 1-year weight loss outcomes post surgery. Participants could at best “accept” or be “disappointed” with their clinically expected post bariatric surgery body shape. This suggests that there may be unrealistic expectations regarding post-operative body shapes in some women seeking bariatric surgery. These unmet expectations may negatively impact on post surgery outcomes including treatment satisfaction, weight loss, mood, and behaviour maintenance.

Oldershaw, Lavender, Sallis, Stahl, & Schmidt (2015) found that people with anorexia reported more maladaptive schemata compared to healthy controls, including those for defectiveness/shame, subjugation, and social isolation. These generated increased levels of emotion such as disgust and shame. Lier, Biringer, Stubhaug, & Tangen (2013) suggested that the feeling of shame and self-critical thinking was more prominent in obese individuals than in the general population, potentially due to experiences of weight stigma. People who are more prone to feel shame may be more vulnerable to the development of eating disorders (Swan & Andrews, 2003). Shame could therefore play a role in the understanding of the development of restrictive eating behaviours after bariatric surgery.



Post surgery excess skin has a negative impact on body image and quality of life, causing shame, dissatisfaction and embarrassment for many people (Baillot et al., 2013; British Association of Plastic Reconstructive and Aesthetic Surgeons (BAPRAS), 2014; 2017; Kitzinger et al., 2012). Kitzinger et al. (2012) found that 96% of 252 people who were post bariatric surgery experienced excess skin following significant weight loss. Their study also showed that 5% of women and 4% of men would not choose bariatric surgery again due to the development of excess skin. Ramalho et al. (2014) found that greater body dissatisfaction and depressive symptoms were associated with impairment caused by excessive skin in women following bariatric surgery. In some cases, people suffer so much that they would rather be obese again. Body contouring surgery involves the removal of excess skin through plastic surgery using variations of common cosmetic procedures. It is often viewed as aesthetic surgery, however due to excess skin's interference on patients' physical functioning, the surgery should be thought of as reconstructive or functional (Soldin et al., 2014).

The NICE guidelines (2014) recommend that bariatric surgery should be undertaken only by a multidisciplinary team that can provide “*information on, or access to plastic surgery (such as apronectomy) when appropriate*” (recommendation 1.10.9).

Highton, Ekwobi, & Rose (2012) conducted a survey of 61 UK Bariatric Surgeons and found that although 92% felt that patients faced functional problems relating to excess skin following significant weight loss, only 22% reported that their patients who had excess skin were able to access a plastic surgeon. The referral criteria varied across the country and some respondents reported that some Primary Care Trusts required patients to sign a waiver agreeing that they would not automatically get

plastic surgery after weight loss. Body contouring surgery has been shown to improve both quality of life and body image (Björserud et al., 2013) but due to decreasing resources it is no longer routinely provided by the NHS (Giordana et al., 2012).

One of the difficulties in identifying these presentations is that they are often seen as success stories by bariatric surgeons due to the amount of weight lost. Weight loss is understandably an important variable by which to measure the success of bariatric surgery. However, the impact of this unique dramatic weight loss on psychological and social well being of people who were once morbidly obese still remains to be fully understood. When rapid weight loss is linked with problematic eating behaviours and associated cognitions, the psychological impact can counteract the considerable improvement in QoL that bariatric surgery normally leads to (Herpertz, Kielmann, Wolf, Hebebrand, & Senf, 2012). Although there can be a positive association between extreme weight loss and quality of life and body image, studies have shown that there can be a negative relationship between these variables, including the effects of anxiety and eating disorders (Bocchieri, Meana, & Fisher, 2002b; Herpertz et al., 2004; van Hout et al., 2006). There is an appeal to consider a holistic set of outcome measures for bariatric surgery (rather than just being judged on weight loss and resolution of pre-surgical medical problems alone) (Kitzinger et al., 2012; LePage, 2010; Soldin et al., 2014; Sutton & Raines, 2008; van Hout et al., 2006; van Hout, Fortuin, Pelle, & van Heck, 2007; van Hout, Hagendoren, Verschure, & van Heck, 2009). These include psychosocial factors such as social and personal adjustment, positive changes on pre-operative psychological parameters, satisfaction with outcome, and confidence in ability to adopt or maintain new behaviour patterns. Future research may benefit from holding in mind that outcomes of bariatric surgery

are not purely positive, that there may be some negative outcomes as well (Bocchieri et al., 2002b).

The increasing frequency of bariatric surgery means that improving understanding around the development of these problematic psychopathological symptoms is crucial not only for clinicians – so that they can identify and provide treatment for these difficulties; but also clients – so that they are aware of all possible risks and complications of the surgery (Conceição et al., 2013b; Conceição et al., 2015; van Hout et al., 2005).

### **Rationale for the Current Study**

To summarise, the prevalence of obesity and severe obesity looks set to continue to rise, therefore bariatric surgery, the treatment of choice for weight loss in people who are morbidly obese, will likely increase in frequency as a result. There is an established body of literature looking at binge eating disorder following bariatric surgery, however there is limited literature focusing on restrictive eating disorders. This may be because these difficulties have been misconstrued as extremely successful weight loss following bariatric surgery. As the field for bariatric psychology has become more established, and more emphasis has been placed on post-op follow up (rather than pre-op assessment for suitability for surgery), awareness of this problematic pattern has slowly started to increase. These difficulties are associated with negative consequences including potential malnutrition, reduced quality of life and significant psychological distress.

Previous research in the area has been in the form of case studies, case series and case reports, which while useful in giving a context to the area, are anecdotal surface level descriptions and cannot provide a more in-depth insight and understanding of people's personal experiences (e.g. Bonne et al., 1996; Conceição et al., 2013a; Conceição et al. 2013b; Conceição et al., 2015). Thus, studies are needed that specifically elicit the patient experience.

The current literature looking at the development of restrictive eating disordered behaviours following bariatric surgery has taken the form of case studies, case series and case reports documenting clinical profiles and outcomes (e.g. Bonne et al., 1996; Conceição et al., 2013a; Conceição et al. 2013b; Conceição et al., 2015). While useful in providing context to the area, what is lacking is the exploration into the experiences of the people themselves who are subject to this phenomenon. Thus, in order to understand these difficulties further studies are needed that specifically elicit the patient experience so that insight is gained into their perspective, rather than solely from the clinicians who treat them.

Qualitative studies in the bariatric literature are growing (Bocchieri et al., 2002b; Earvolino-Ramirez, 2008; Gilmartin, 2013; LePage, 2010; Lyons, Meisner, Sockalingam, & Cassin, 2014; Magdaleno, Chaim, Pareja, & Turato, 2011; Ogden, Clementi, & Aylwin, 2006; Park, 2015; Wood & Ogden, 2015), but are limited in number. Studies exploring restrictive eating disorders specifically *and* using a qualitative approach appear to be absent from the literature.

The following study aims to gain a detailed insight into the individual experiences of women who have developed restrictive eating disturbances after bariatric surgery.

### **Adopting a Qualitative Approach**

A narrative review of the literature was conducted to explore what other work had been published in the area. Pubmed and PsycINFO were searched using the terms ‘bariatric surgery’, ‘obesity surgery’, ‘weight loss surgery’ and ‘anorexia’. Following this, searches through the references of the articles retrieved, as well as personal correspondence with experts were utilized.

Given the absence of research focusing on the experiences of people who develop restrictive eating behaviours after bariatric surgery, a qualitative approach was selected. A qualitative approach was considered to be appropriate due to its flexibility to explore unanticipated ideas that participants might express. By allowing the research to be guided by the participants’ own experiences, rather than it being limited by the researcher and existing knowledge in the field, the possible scope of knowledge and understanding is opened up considerably (Braun & Clark, 2013). A qualitative method felt essential in order to allow the emergence of significant idiographic experiences, allowing for a richer understanding of an under-researched phenomenon by focusing on how participants see, understand and experience the world in their own language, helping to gain insight in how they construct meaning to the behaviours (Willig, 2013).

IPA attempts to understand how people make sense of their experiences. Examining people's lived experience is a natural next step in this area because it 'gives voice' to the people experiencing this phenomenon, ensuring that the patient is kept at the centre of the research. The specific rationale for using IPA is discussed extensively in the methodology chapter.

### **Study Summary and Research Question and Aims**

This study aims to explore the lived experiences of women who develop restrictive eating disordered behaviour following bariatric surgery. It is anticipated that the information collected will improve understanding in this under-researched area, allowing professionals to better support pre- and post-operative bariatric clients by identifying those people who may be at risk of developing restrictive eating behaviours. The study also hopes to inspire others to build on the themes that emerge and carry out further research in this area.

The main research question for this study is:

What are the lived experiences of women who have developed restrictive eating disordered behaviours after bariatric surgery?

The general aims for this study are:

1. To see if the findings of this study can help identify clients who may be at risk of developing restrictive eating behaviours after bariatric surgery
2. To see if the findings of this study can have an influence on policy and practice in this area

## **Chapter 2: Methodology**

### **Theoretical Roots of Interpretative Phenomenological Analysis (IPA)**

IPA was developed by Jonathan Smith (1996) as a qualitative research approach concerned with the detailed examination of how people make sense of their experiences (Smith, 2011). It is a ‘whole’ approach (i.e. a methodology) rather than just an analytic method and therefore has specific theoretical principles that guide it (Braun & Clarke, 2013).

IPA has theoretical roots in three key philosophical areas: phenomenology, hermeneutics and idiography. Each of these will be described in turn and how they relate to IPA. [For further information refer to Smith, Flowers, & Larkin 2009, Chapter Two].

### **Phenomenology**

Phenomenology is a philosophical approach concerned with the study of lived experience. It is thought to have two historical phases: the transcendental and the hermeneutic or existential (Harper and Thompson, 2012). The transcendental phase, from the philosopher Husserl, explored how people identified the essential core qualities of a given experience by ‘going back to the things themselves’ through a process of methodological ‘reductions’. Husserl thought that phenomenology was about identifying and suspending assumptions by bracketing off such things as culture, context, and history so that the ‘pure’ essence of a specific experience could be observed as it presented itself.

After Husserl phenomenology developed (notably by Heidegger and Merleau-Ponty) to suggest that it would never be possible to make Husserl's 'reductions' to the abstract because peoples' observations would always stem from somewhere. Heidegger and Merleau-Ponty viewed the person as a 'person in context' and thought that meaning was made through people's involvement with the world and through their relationships with others. This suggested that although the natural tendency of phenomenology was to be descriptive, it could only ever be interpretative. This position is often called hermeneutic phenomenology.

Through the work of phenomenological philosophers there is an understanding that the examination of experience is complex and influenced by a person's unique place within the world (Smith, 2011). IPA is interested in exploring people's lived experiences in its own terms, rather than in predefined categories; as well as the meaning that people attach to these experiences. This is the phenomenological aspect of IPA.

## **Hermeneutics**

Hermeneutics is the theory of interpretation. Smith et al. (2009) examine the work of three of the main hermeneutic theorists: Schleiermacher, Heidegger and Gadamer.

Schleiermacher viewed interpretation as a process that involved grammatical interpretation (i.e. of the text itself) and psychological interpretation (i.e. of the uniqueness of the writer). This links with the IPA perspective that analysis may offer



meaningful insights that not only includes but also builds upon the explicit responses of participants. These additional insights may derive from having an overview of the whole data set as well as through engagement with psychological theory.

Heidegger looked at phenomenology through a hermeneutic lens and viewed it as an interpretative activity. He highlighted that the analyst's attempt to make sense of an emerging object (i.e. their interpretation) will be influenced by their previous experiences, assumptions and preconceptions. Heidegger highlighted the importance of 'bracketing off' these preconceptions when interpreting, even if this could only be achieved during the interpretation. Like Heidegger, Gadamer recognised that a person's preconceptions may only come to light once the interpretation of a new object is underway, and that this sense-making process is complex, with the new object influencing the interpretation, which in turn can influence the preconception, which in turn can influence the interpretation.

IPA views human beings as sense-making creatures, and therefore the accounts that participants provide will reflect their attempts to make sense of their own experience. The researcher cannot access a participant's world directly, but are involved in a dual interpretative process, or a 'double hermeneutic' because they are trying to make sense of the participant trying to make sense of what is happening to them; this is the interpretative part of IPA. In this way the participant's attempt to make meaning is first-order, and the researcher's attempt at sense-making is second-order.

Ricoeur (1970) highlights how IPA operates another dual analytic process. First, by staying close to the participant's account of their experience and attempting to rebuild

the original experience in a way that is ‘true’ to the participant’s understanding. This ‘insider’ stance has been described as a hermeneutics of empathy. Second, by stepping back from participants accounts, and using outside theoretical perspectives to view the data and shed light on the phenomenon. This ‘outsider’ stance has been described as a hermeneutics of suspicion (Braun & Clarke, 2013). Smith et al. (2009) propose a middle-ground position, which combines the ‘hermeneutic of empathy’ with a ‘hermeneutic of questioning’. The IPA researcher wants to see what it is like from the participant’s view but also wants to become more interpretative by asking questions and looking at things the participant has said from a different angle. This ‘questioning hermeneutic’ is slightly different from Ricoeur’s hermeneutic of suspicion as it is based on an interpretation which is still based on data from within the original text or data, rather than based on importing outside reading.

Hermeneutic theory also speaks of the ‘hermeneutic circle’, which looks at the relationship between the part and the whole. This idea states that to understand any given part, you look to the whole; and to understand the whole, you look to the parts (Smith et al., 2009). This circularity speaks to the iterative way in which IPA analysis may move back and forth through the data analysis process, and thus the hermeneutic circle, rather than completing each step one after the other in a linear fashion.

### **Idiography**

Idiography is interested in the particular, rather than making generalisations to the group or population level. IPA’s focus on the particular works on two levels. Firstly, there is the detail and depth of the analysis, which is thorough and systematic.

Secondly, IPA is committed to understanding how particular experiential phenomena (e.g. an event, process, or relationship) have been understood from the perspective of particular people, in a particular context. This is done through the study of small, carefully selected samples or single-case study and focusing on verbatim accounts.

IPA is idiographic in its commitment to the detailed examination of the particular instances of lived experience. It wants to know in detail what the experience for *this* person is like and what sense *this* particular person is making of what is happening to them. Following this detailed analytic treatment, IPA will move to more general claims, searching for patterns across the cases, noting not only the patterns of similarity, but also the unique way in which the themes present for individuals (Smith, 2011).

### **Rationale for Choosing IPA**

The understanding around development of restrictive eating disordered behaviour after bariatric surgery is still in the early stages despite the recent changes to the DSM-V criteria for anorexia nervosa (APA, 2013). Examining people's lived experience is a natural next step because it helps to gain insight in how they construct meaning of the behaviours and "gives voice" to the people experiencing this phenomenon, ensuring that the client is kept at the centre of the research (Willig, 2013).

Interest in the lived experience is "*the raison d'être of IPA*" (Smith, 2011, p.14), and in particular with lived experience that is of importance to the participant. This study

is looking at behaviours that are playing a significant part in the lives and worries of women after bariatric surgery, which lends itself to use an interpretative phenomenological qualitative approach. Because IPA does not try to fit experience into pre-defined categories it is a helpful approach in less researched areas (Smith et al., 2009). The idiographic commitment of IPA to understand how a particular phenomenon (in this case the development of restrictive eating behaviours) is understood by particular people (women), in a particular context (after having had bariatric surgery) also lends itself to being used as the methodological approach for this study. Through the detailed idiographic nature of IPA, the findings of this study can be connected to the existing nomothetic research.

This study aims to try and understand more about the subjective experience of participants: what is it like to experience restrictive eating disordered behaviour after bariatric surgery. IPA allows a focus on the detail of individual experience (Braun & Clarke, 2013). This is important from both a clinical and research perspective. Clinically, understanding the experience better is imperative as this phenomenon is likely to increase in presentation as the frequency of bariatric surgery increases. Findings from this study may help clinicians support clients who are currently struggling post-surgery and provide focus points for therapeutic input. It may also suggest vulnerabilities that could be explored pre-surgery to highlight those clients who might be more at risk of going on to develop restrictive eating difficulties after surgery, as well as identifying factors post-surgery that may be risk factors. From a research perspective the data from this study may help to provide context to the findings of previous case studies/reports of this phenomenon, as well as highlighting potential aetiological factors that could be explored in further research.

## **IPA Compared to Other Methods**

There are other well-established qualitative methods that could have been used in this study; however in light of the information presented above IPA was chosen as the most suitable analytic method to answer the research questions within the time and resource constraints of a DClinPsy. Several other methods were considered.

Thematic Analysis (TA) is used for identifying and analysing patterns of meaning in qualitative data; highlighting themes that are important to the area that is being studied (Joffe, 2012; Vaismoradi, Turunen, & Bondas, 2013). Although IPA and TA both identify themes, this study wished to go further and therefore IPA was chosen due to its interpretative nature. The idiographic nature of IPA highlights unique characteristics of individual participants as well as patterns across the sample, while TA tends to focus on trends across the sample only. In addition to this IPA is considered a methodology; providing a robust framework for conducting research specifying such things as philosophical underpinnings, theoretical framework, types of research questions to ask, and sampling strategy. TA is a method/technique for collecting and analysing data that can be used flexibly (Smith et al., 2009).

Content Analysis systematically codes and categorises data to describe a text's content and characteristics. It determines trends, patterns, and frequencies of words used and can be useful for carrying out exploratory work in an area where not much is known. Although not much is known about the current presentation, this study wanted

to go beyond simple reporting of common issues mentioned in the data, and therefore IPA was chosen (Vasimoradi et al., 2013).

IPA and Discourse Analysis (DA) are both linguistically based approaches, which look closely at participants' reports of their experience, however their rationale is different (Smith, 2011). IPA analyses what participants have said in order to understand how they are making sense of their experiences, while DA looks at what participants have said in order to understand about how they are constructing accounts of their experience, that is how they have used language. This study wanted to understand the lived experience and how participants *made sense of their experience* of restricted eating behaviours, rather than how they *constructed their accounts* of this experience and so IPA was chosen (Starks & Trinidad, 2007).

Grounded Theory (GT) is often considered the main alternative to IPA and they share many features. Both systematically work through a text to identify themes or categories that capture the fundamental process (in GT) or essence (in IPA) of a phenomenon of interest. Although GT is a more established qualitative method, while IPA is a relatively recent approach and is still developing, the application of GT can be challenging due to the different versions that have been developed. Another reason why IPA was chosen over GT for this study was that GT normally sets out to generate a theoretical-level account of a particular phenomenon, while IPA was designed to gain insight into individual participants' psychological worlds. Future research in this area may want to use GT to identify the processes that account for this phenomenon but this study wished to gain a better understanding of the nature of the phenomenon

by staying close to the detailed individual lived experience given the sparseness of previous research in the area (Vaismoradi et al., 2013; Willig, 2013).

IPA is one of a range of phenomenological approaches each articulating the beliefs of phenomenology in a slightly different way. The most established is that of Giorgi, who emphasises a descriptive approach, and attempts to be as close to Husserl's phenomenological ideas as possible. The outcome of a Giorgi study produces results in the form of a third person narrative, a summary statement outlining the general structure of the phenomenon being studied. This study wanted to focus on the particular rather than a more general structure, which fit in with using IPA where the results take the form of a more idiographic interpretative commentary with extracts from the participants' accounts (Smith et al., 2009).

### **Epistemological Position**

IPA is an experiential qualitative research approach. It aims to make sense of how the world is seen, understood and experienced from the person's perspective. Qualitative approaches collect and engage with data in a reflexive manner, acknowledging the relationship between the researcher and the researched. This involves reflexivity, which refers to "*the ability to engage critically in understanding the contribution the researcher's experiences and circumstances have had in shaping a given study and its findings*" (Harper & Thompson, 2012, p.6). This is sometimes separated out into epistemological reflexivity and personal reflexivity. Personal reflexivity looks at the influences of the researcher's own values, experiences, interests, beliefs, and identity (see Researcher as a Person in Context section), while epistemological reflexivity

explores how the assumptions of the research approach taken have shaped the study and findings (Harper & Thompson, 2012; Willig, 2013).

Epistemology refers to theories about the nature of knowledge (Braun & Clarke, 2013) and there are a number of different terminologies and classifications. Willig (2013) recommends not getting “*too hung up*” (p.12) on the labels, and that what is important is to highlight the type of knowledge one wants to collect, as this will impact on what is considered meaningful data and how it is collected.

The epistemological position for this study is influenced by contextualism and a phenomenological position. Contextualism focuses on persons-in-context. It does not assume a single reality or ‘truth’ and views knowledge as emerging from contexts as well as reflecting the researcher’s positions. The phenomenological position considers experience to always be the product of interpretation and is therefore constructed (and flexible) rather than determined (and fixed), however, it is nevertheless ‘real’ to the person who is having the experience (Willig, 2013).

Qualitative research approaches are also influenced by their ontological position, which refers to theories about the nature of reality or being. Ontological assumptions are on a continuum. At one end is relativism, which holds the view that reality depends entirely on human interpretation and knowledge. We can only ever view the phenomenon from multiple perspectives and will never know if the knowledge we have of it is the ‘right’ one. At the other end is realism, which holds the view that a ‘true’ reality of a phenomenon exists and can be accessed by the appropriate application of research techniques. In between these two positions, and underpinning



this study, is critical realism, which holds the view that a ‘true’ reality exists but it is socially influenced by culture, history, and so on, and therefore can only ever be partially accessed (Braun & Clarke, 2013). In this study that means that knowledge obtained about this phenomenon will be influenced by the participants, as well as ourselves as researchers, and is subjective.

## **Sample Size**

Five women were recruited from NHS and non-NHS Bariatric Psychology Services in central London and in the North of England. The sample size was chosen due to IPA being selected as the chosen analytic strategy. As mentioned earlier, IPA is idiographic in its approach; therefore studies often have small sample sizes, as the aim is to “*reveal something of the experience of each of those individuals*” (Smith et al., 2009, p.3). IPA requires an intensive analysis of participants’ accounts, the intensity of the analysis for each case means that for IPA studies a sample size is needed that is large enough to credibly show patterns across the data, and yet small enough to keep the focus on the unique individual experiences (Braun & Clarke, 2013; Smith, 2011). Due to the time constraints of a DClinPsy, Smith et al. (2009) recommend a sample size of between four to ten interviews for professional doctorate projects.

## **Inclusion/Exclusion Criteria**

Due to the relatively small sample sizes in IPA, it is recommended to use a fairly homogeneous sample and this advice is especially endorsed for newcomers (Smith et al., 2009). In addition to this, Conceição et al. (2015) suggest that further research on

eating disorders and eating behaviours in bariatric surgery would benefit from using consistent terminology and operational definitions. It was therefore important to think carefully about the inclusion and exclusion criteria for this study.

## **Female**

Although diagnosis of an eating disorder is on the rise in males, it was chosen to only include female participants due to the prevalence of eating disorders being higher in females. Clinical populations suggest a 10:1 female-to-male ratio of anorexia nervosa (APA, 2013). In addition to this, women are more likely to seek surgery, with the NBSR (2014) reporting that 74% of people who seek bariatric surgery are women.

## **At least nine months post surgery**

It was decided that nine months post surgery would have allowed people to go through the texture progression of their post surgery diet and establish a pattern of eating. It was decided not to put an upper limit on years post surgery due to the limited research in this area and not wanting to exclude potential participants.

Previous studies had also shown that people could present to services with disordered eating behaviours at least 26 years post surgery (Conceição et al., 2013a).

## **Meets the DSM-V Criterion for Anorexia Nervosa**

- A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and

physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.

In this study this was operationalised using the guidance of an Excess Percent Weight Loss (%EWL) that was higher than usual for the amount of time elapsed since surgery (Oria et al., 2005).

- B. Intense fear of gaining weight or of becoming fat, or persistent behaviour that interferes with weight gain, even though at a significantly low weight.
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

### **Able to speak English fluently**

IPA relies on rich, detailed accounts of a person's experience. It was therefore decided that participants would need to speak English fluently.

### **Currently being seen by the bariatric psychology department and not actively suicidal**

This was decided upon so that if any risk issues were identified in the interviews, participants were already in contact with a psychologist who could arrange to see them immediately. To try and capture the way, if any, that seeing a psychologist may have influenced the participants' knowledge of their experience a question was

included in the interview schedule exploring participants' sessions with the Bariatric Psychology Service.

## **Recruitment**

Bariatric Psychology Services in central London and the North of England were used to recruit participants. Rather than using probability methods to select the sample, purposive sampling was used. This is where participants are selected deliberately and in a non-random fashion based on their characteristics (Smith et al., 2009).

Over approximately four months, bariatric service psychologists identified potential participants who met the inclusion criteria and invited them to take part during routine clinic appointments. Staff described the study and provided a Participant Information Sheet (Appendix 3). If the women were willing for the researcher to contact them, their details were passed on securely to the researcher. The researcher then contacted the participants directly to discuss the study further, answer any questions, and arrange a time and place to meet.

Five women were identified and approached and all five women decided to take part.

## **Participant Demographics**

The ages of the five participants who took part in the study ranged from 29 – 55 years of age (Mean = 37.6years, Median 35years, SD = 10.33). Three of the women were White-English, one was White-Irish, and one was Any Other Asian Background. All

of the women were in relationships – three of the women were married and two were engaged. Three of the women were in full-time or part-time employment, one lady was unemployed and one was on maternity leave.

All of the women had undergone a Roux-en-Y Gastric Bypass. The time since surgery ranged from 10months to eight years (Mean = 35.6months [2years11months], Median = 24months [2years], SD = 35.34months [2years11months]). The women's weight pre-surgery ranged from 103kg to 161kg (Mean = 130.5, Median = 140.9, SD = 25.83) and their BMIs pre surgery ranged from 41.2kg/m<sup>2</sup> to 59.6kg/m<sup>2</sup> (Mean = 49.52, Median = 47, SD = 7.11). The women's current weight ranged from 64.5kg to 97kg, however one of the women had recently given birth (Mean = 84.08kg, Median = 88.9kg, SD = 13.58). The women's current BMIs ranged from 29.05kg/m<sup>2</sup> to 34.9kg/m<sup>2</sup> (Mean = 31.17, Median = 30.6, SD = 2.30). The women's lowest weight since the surgery ranged from 64.5kg to 89kg (Mean = 77.76, Median = 77.5, SD = 9.11) with a BMI that ranged from 25.2kg/m<sup>2</sup> to 31.7kg/m<sup>2</sup> (Mean = 29.19, Median = 29.7, SD = 2.44). At their lowest weights the %EWL since surgery ranged from 70%EWL to 98.8%EWL (Mean = 81.66, Median = 80, SD = 10.52).

One of the women had not experienced any surgical complications, however the other women all had. These included dilation (stretching), gall stones, stenosis (stricture), or the wound re-opening and leaking or becoming infected. The number of sessions that the women had received ranged from three to 15, however for the lady who had undergone the surgery eight years ago this number was unable to be calculated, but it was a lot.

## **Ethical Considerations**

The study received full ethical approval from the London – Dulwich Research Ethics Committee and the Psychology Department, Royal Holloway, University of London, as well as HRA Approval (Appendix 4, 5 and 6).

The Research and Development department of the NHS recruitment site granted approval for the research to take place (Appendix 7).

## **Informed Consent**

All participants were aged over 18 years old and deemed to have capacity. Potential participants were given an information sheet and had the opportunity to discuss the study with their clinician before they were made known to the researcher. The information sheet described the purpose of the research, what taking part in the study involved, that it was voluntary, the right to withdraw, the risk and benefits of taking part, and how confidentiality and anonymity would be applied.

Informed consent was gained for participation, as well as for the interview to be recorded and verbatim quotes potentially being included in the published report.

Prior to starting the interview participants were reminded that they could withdraw at any point and time was given to ask any questions. Participants completed a consent form (Appendix 8), which the researcher countersigned. Each participant retained a copy of the consent form and the researcher also retained a copy.

## **Confidentiality**

The information sheet explained how confidentiality would be applied and this was reiterated when gaining informed consent. The limits of confidentiality were explained, such that disclosures of risk may result in confidentiality being broken. The participants' GPs were informed by letter that they had taken part in the study (Appendix 9) and consent for this was gained when completing the consent form.

All identifying information was anonymised and participants were given unique identification numbers to identify the interview transcripts, audio files and questionnaires. Confidentiality could not be assured as verbatim quotes are routinely included in published reports in qualitative research, however any direct quotes used were edited to protect anonymity.

All data was stored securely in a locked cabinet at the supervisor's clinic. Electronic data was stored on an encrypted USB memory stick, which adhered to NHS confidentiality standards.

## **Risks**

No immediate risks were identified to taking part in the study, however the topic of the research could have brought about emotional reactions. To try and minimise this distress various steps were taken. The information sheet, questionnaires used, and the interview schedule were all developed with service user involvement to make sure

they were worded sensitively. The questionnaires were completed in the presence of the researcher in case they caused any distress. Participants were informed at the start of the research appointment that they could choose not to answer any questions should they wish. They were also informed that they could withdraw from the interview at any point and their decision to withdraw would not affect the care that they received. The researcher used their therapeutic skills to build rapport and respond sensitively to what was being discussed. Interviews were conducted in a private consultation room or at participants' homes to ensure that they felt as comfortable as possible to talk about potentially sensitive topics.

At the end of the interview, time was allowed for verbal debriefing. Participants were reminded of the support agencies mentioned in the information sheet and that they could speak to their psychologist if further support was needed.

## **Data Collection**

IPA is best suited to a data collection method that encourages participants to offer a rich, detailed, first-person account of their experiences. In-depth interviews have been highlighted as one of the best ways of accessing such accounts (Smith et al., 2009). In this study an individual face-to-face, semi-structured interview was used.

The interview schedule (Appendix 10) was developed using published guidance (Smith et al., 2009) and through discussions with research supervisors and a service user (see Service User Involvement). Due to the limited research in this area there was restricted literature to help guide the development of questions. The interview



schedule was used in a flexible manner, which allowed for exploration of interesting subjects that were brought up. The first question was very open “*What was the first thing that came to mind when you heard about this study?*” and aimed to ease the participant into the interview process and build rapport. It also allowed insight into the participant’s motivation to take part in the study and what was important to them.

Interviews lasted between 41 and 128 minutes. The interviews were audio recorded and transcribed verbatim by the researcher with identifying information removed.

In their 2015 paper, Conceição et al. highlight the varied ways in which this phenomenon has been assessed. This may be due to it being difficult to capture eating disorders and problematic eating behaviours after bariatric surgery. There are no ‘gold standard’ measures to try and capture the nuances of this population. Conceição et al.’s paper recommended that researchers attempt to use consistent assessment methodologies across studies. Due to the limited research in this area, it was decided to use a selection of questionnaires in order to situate the study’s sample in the current literature and to provide some descriptive information alongside the face-to-face interviews. However, this study has taken a critical realist approach meaning that any data captured by the questionnaires would be understood as being only a partial access to the participants’ ‘true’ reality.

The Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983, Appendix 11) is a 14-item self-report questionnaire. It looks at non-physical symptoms of anxiety and depression and is based on the past week. Depressive symptoms are associated with anorexia nervosa (Segal et al., 2004), and DSM-V

(APA, 2013) states that individuals who are seriously underweight may have depressive signs and symptoms such as depressed mood, social withdrawal, irritability, insomnia, and diminished interest in sex. These features can also be seen in individuals without anorexia nervosa who are significantly undernourished. The HADS is one of the NICE recommended tools for diagnosis of depression and anxiety (2011).

The Eating Disorder Examination Questionnaire (EDE-Q, Fairburn & Beglin, 1994, Appendix 12) is a 28-item self-report version of the Eating Disorder Examination (EDE) interview (Fairburn & Cooper, 1993). It looks at the cognitive and behavioural symptoms of eating disorders and is based on a 28-day time frame. Its subscales are recommended for assessing eating-related pathology, and it has been validated for use with bariatric surgery clients (Grilo et al., 2013; Parker & Brennan, 2015).

The Clinical Impairment Assessment Questionnaire (CIA, Bohn & Fairburn, 2008; Bohn et al., 2008, Appendix 13) is a 16-item self-report measure that looks at the severity of psychosocial impairment due to eating disorder features around mood and self-perception, cognitive functioning, interpersonal functioning and work performance and is based on a 28-day time frame. It has been shown to be psychometrically adequate for this population with good internal consistency and evidence of construct validity (Parker et al., 2015).

The Impact of Weight on QoL - Lite (IWQOL-Lite, Kolotkin et al., 2001, Appendix 14) is a 31-item self-report questionnaire that looks at the impact of obesity on a person's quality of life in five different domains of functioning: physical functioning,

self-esteem, sexual life, public distress, and work and is based on the past week. It has been shown to be a valid instrument for use in this population with strong psychometric properties.

The Multidimensional Body Self-Relations Questionnaire (MBSRQ, Brown, Cash, & Mikulka, 1990, Appendix 15) is a 69-item self-report inventory for the assessment of self-attitudinal aspects of body image. It looks at evaluation and orientation across the domains of appearance, fitness and health/illness, as well as body areas satisfaction, over weight preoccupation, and self-classified weight. It has validated norms for women and has been used in research on body image and weight loss surgery.

### **Service User Involvement**

One service user, who was post-bariatric surgery and active in NHS research, was consulted on the design of the project. They commented on the interview schedule and how it might be understood. Their feedback influenced the wording of questions, helping them to be meaningful and grounded in real experience. They advised on the questionnaire measures being used and considered if the number was too much of a burden. They considered possible ethical issues and how the researcher might best manage them, as well as making suggestions about how findings could be disseminated in an accessible and meaningful way.

### **Data Analysis**

The data was analysed using IPA as described in Smith et al. (2009). In addition to this, guidance was given by a Senior Lecturer in Health Psychology experienced in qualitative research and a Consultant Clinical Psychologist working in a Bariatric Surgery Service.

The common processes, principles and strategies of analysis in IPA were applied in a flexible manner, rather than a prescriptive one. Although the focus of IPA analysis is always towards the participants' attempts to make sense of their experiences, there is a reflective interaction between the participants' account and the analyst. The end result is therefore how the analyst thinks the participant is thinking.

IPA always starts with analysing the first case in detail, before moving on to the next and doing the same, and so on.

### **Reading and Re-reading**

The beginning of analysis in IPA involves the researcher immersing themselves in the original data. To do this the transcript of the first participant's interview was read and re-read a number of times. In conjunction to this the audio recording of the interview was also listened to again. The aim of this was to become immersed in the participant's world and ensure that they remained the sole focus (Bradley, Curry, & Devers, 2007). Any powerful recollections of the interview or striking observations of the transcript were jotted down in order to bracket them off so that the focus could remain on the data.

## **Initial Noting**

The next level of analysis involved engaging with the text in detail through exploratory commenting, that is noting down anything of interest in the transcript. This step focused on descriptive comments (the content, what the participant has said), linguistic comments (the language used by the participant, pauses, laughter, repetition, tone, metaphor), and conceptual comments (focusing at a more abstract level, tentative interpretations). Comments included summarising, noting connections or associations that came to mind, contradictions and questioning what it meant for the participant.

## **Developing Emergent Themes**

The next stage of analysis was more interpretative and focused on developing emergent themes from the exploratory commenting data. The aim of the themes was to produce a concise statement of what was important in the various comments attached to a piece of the original transcript. The themes not only reflected the participant's original words but also the researcher's interpretation. At this stage, analysis moves from the loose and open initial notes, to emergent themes that hopefully capture and reflect an understanding of what is crucial at that point.

Appendix 16 provides an example of initial noting and emergent themes for an extract of Participant 1's interview transcript.

## **Searching for Connections**

The next stage of analysis involves the researcher looking at how the emergent themes fit together to create a structure that “*allows you to point to all of the most interesting important aspects of your participant’s account*” (Smith et al., 2009, p.96).

To generate these connections between emergent themes the researcher collated all the emergent themes and grouped similar ones together, then these groups were printed out and stuck on a pin-board to help gain an overview. Connections were again looked for and emergent themes grouped together.

## **Moving to the next case**

The entire process was repeated with the remaining participants’ interview transcripts. In keeping with IPA’s idiographic approach, it was important to treat each case individually and allow new themes to emerge. It was therefore essential for the researcher to try and bracket out ideas that emerged from previous analyses.

## **Cross case analysis**

The next stage of analysis involved comparing the sub-themes across all the participants and looking for patterns, or super-ordinate themes, across the cases. These were then arranged in a table showing how sub-themes fit within super-ordinate themes and verbatim extracts from participants were used to illustrate the themes (see Results Chapter).

## **Quality in IPA**

There have been lengthy discussions around how best to assess validity and quality in qualitative research (Elliott, Fisher, & Rennie, 1999; Mays & Pope, 2000; Yardley, 2000; 2008; Smith, 2009; 2011; Willig, 2013). Difficulties stem from the numerous different approaches to qualitative research that exist, as well as the historical dominance of quantitative research, leading to validity criteria for quantitative studies being inappropriately applied to qualitative studies.

It was therefore essential for qualitative researchers to develop appropriate criteria to show that their studies were sound and rigorous and their findings valuable (Yardley, 2008). General guidelines for assessing quality and validity in qualitative research have been developed (Elliott et al., 1999; Mays & Pope, 2000; Yardley, 2008; 2015) and informed recent attempts to generate core features of high quality IPA research specifically (Smith, 2009; 2011). These general guidelines were consulted and used to guide the study as detailed below.

## **Sensitivity to Context**

Existing literature and research guided the development of the topic area and research questions. Attention was given to the perspective and socio-cultural context of participants during the interview process by allowing them to decide where the interviews were carried out in order to put them at ease, while open-ended questions encouraged participants to talk about what was important to them. Sensitivity to context continued on into the analysis stage through the researcher trying to

understand how the participant was making sense of their experience and using verbatim extracts to support interpretations. The characteristics of the researcher were also considered (see Researcher As a Person-In-Context).

### **Commitment and Rigour**

The core principles of this area are: in-depth engagement with the topic, methodological competence/skill, thorough data collection, and depth of analysis (Yardley, 2008). The rationale for selecting IPA and the appropriateness of the sample to the research question have all been discussed and considered in previous sections. Interviewing is a crucial part of the IPA process; getting good data requires good interviewing. The quality of the interview data obtained sets a limit to how good a study can subsequently be (Smith, 2011). To ensure rigour, the researcher developed their skills and knowledge by attending IPA group meetings, consulting published literature, and received training on carrying out research interviews. During the interview attention was paid to the participant and what they were saying in order to pick up on important cues that needed further enquiry. Each case was analysed carefully in an attempt to move beyond simply what was said to an interpretation of what it meant. The study aims to “give a voice” to participants’ experience, therefore extracts from all participants were used to illustrate each super-ordinate theme.

To further enhance comprehensiveness (rather than as a test of validity) triangulation was used. This is where results from different methods of data collection are compared (Mays & Pope, 2000). In this study, questionnaire data was used as a way



of enriching understanding and developing interpretation of the phenomenon by providing additional context (Flick, 1992; Yardley, 2008).

### **Coherence and Transparency**

A thorough and clear description of the different research stages and processes (design, sample, method, and analysis) have been discussed in previous sections. Consultation with supervisors was arranged regularly, one of whom has experience of qualitative analysis and the other experience of psychology in bariatric surgery. To provide a credibility check, and act as a verification step, the researcher and a supervisor jointly looked at transcripts and discussed emerging themes. The process of interpretation gives rise to ethical implications around imposing meaning and shaping what comes to be known as someone's experience. Respondent validation was used to ensure there was a good fit between the researcher and participants' understanding of their experiences (Willig, 2013).

Extracts from transcripts were used to support themes that emerged during the analysis. It was important to not only include examples that were similar, but also those that highlighted the unique individual experience.

Peer supervision was accessed throughout the research process. This included sections of transcripts being co-analysed in order to gain multiple perspectives, and names of themes being discussed in order for the researcher to gain feedback and check for a good fit between the participant extracts and the assigned title.

A reflective journal was kept to help the researcher ‘own their perspective’ and their contribution to the process as well as reduce bias to data collection and analysis.

Entries were made before and after interviews to reflect on the experience of interviewing that participant.

### **Impact and Importance**

A study’s real validity lies in “*whether it tells the reader something interesting, important or useful*” (Smith et al., 2009, p.183). As discussed in the Introduction, this study aims to highlight the experiences of women who, after bariatric surgery, go on to develop restrictive eating behaviours. This is an under-researched clinical population that is currently under-recognised and poorly understood. The findings will be explored with attention given to any implications for policy makers and practitioners.

Smith (2011) built on these general guidelines to summarise core features of high-quality IPA work. There is an overlap between Yardley’s (2008; 2015) principles and Smith’s (2011) markers for a good IPA paper, therefore only additional considerations will be discussed further. In keeping with the ethos of IPA these suggestions have been applied in a flexible manner (Smith, 2004).

### **Having a clear focus**

IPA papers that focused on a particular aspect, rather than more broadly, are more likely to be of a high quality (Smith, 2011). The focus could be on a particular topic

or a specific group of people. This study focuses on a specific topic – bariatric surgery, specific behaviours – restrictive eating, and a specific group of people – women.

### **Prevalence of the themes**

To further support rigour, IPA studies should aim to give an indication of prevalence for a theme for the sample. Smith (2011) recommends that for studies with four to eight participants, verbatim extracts from at least half the participants should be provided per theme in order to show the breadth and depth of the theme.

### **Interpretative analysis, not just descriptive**

The analysis should be interpretative, not just descriptive. The researcher should be engaging in the double hermeneutic mentioned earlier, using extracts to show how they contribute to the theme, as they try to make sense of the participant trying to make sense of their experience. Smith (2004) suggests that there are (at least) three levels of interpretation in agreement with IPA.

In keeping with the ethos of IPA as a creative and adaptable approach, these guidelines were adhered to in a flexible manner.

### **Researcher as a Person-In-Context**

Reflexivity acknowledges the complexities in remaining objective when carrying out qualitative research. It is important for the researcher to acknowledge their values,

assumptions and interests and the influence that they may have had in the understanding and interpretation of data (Elliott et al., 1999; Mays & Pope, 2000).

I am a 30-year-old White British female Trainee Clinical Psychologist. I have experienced fluctuations in weight and at the time of the interviews was beginning to get back into regular exercise as I had stopped doing this over the past couple of years. As a woman I have experienced the pressures to conform to societal ideals of “thinness” and to look a certain way. I would consider myself to have a weight that falls within the healthy range, however have at times been overweight. I have no personal or familial experience of obesity or of bariatric surgery, however I understand that obesity is not a desirable condition. I enjoy cooking and eating out socially, choosing to manage my weight through exercise rather than diet. This topic was likely of interest to me due to the restrictive eating behaviours being in contrast to my own experience.

Although my interest in bariatric surgery did not predate my research involvement, my interest in eating disorders did, especially in restrictive eating disorders like anorexia nervosa. I became interested in this area following working clinically in an eating disorder service prior to DClinPsy training. During this time we would also often see clients who were pre-bariatric surgery with binge eating disorder, but rarely, if ever, saw clients who were post-bariatric surgery. When I heard about this new emerging presentation it caught my curiosity and I wanted to find out more.

Upon becoming more aware of this presentation I felt it was important for these women to have a voice in the literature. Society and the media often view bariatric

surgery as a 'quick fix', however in reality it is far from that. In conjunction, even though they are unwell, professionals often view these women as 'surgery successes'. Participants were made aware that I was not part of the Bariatric Surgery Service and had limited knowledge in the area. This allowed me to position myself as a curious researcher and allowed them to become 'experts' of their own experience.

Participants were aware that I was not part of the clinical team, which may have allowed them to speak openly about their experience, both positive and negative aspects.

I do not feel that my personal experience and views influenced the nature of analysis, however to try and minimise this service user involvement, open questions and a reflective journal were all utilised.

## **Chapter 3: Results**

### **Master List of Themes**

Interpretative Phenomenological Analysis revealed 14 sub-ordinate themes, grouped into five super-ordinate themes as represented in Table 4. The nature of each super-ordinate theme is summarised by its subthemes, which are represented by the majority of participants' accounts. A more comprehensive summary table of the themes with additional supportive extracts from participants is provided in Appendix 17.

The themes and their data will be presented in a narrative account below (Smith, 2009). Descriptions of participants' experiences and analytical interpretations are interspersed with transcript extracts from different participants to support each theme. Consistent with Yardley (2008), themes that were relevant to the research aims were highlighted to provide 'impact and importance'. The quotes aim to illustrate the themes and how they manifest in different ways among the participants. The extracts selected were thought to be the most representative of the theme.

Some quotes have been edited to ensure confidentiality. To maintain clarity some quotations have been edited and less relevant information has been omitted, indicated by '[...]'. Explanatory material added by the researcher is noted as [text].

Table 3. *Master Table of Themes*

<b>Super-ordinate theme</b>	<b>Sub-ordinate theme</b>	<b>Number of transcripts contributing to theme</b>
1. The past and how I feel about myself	- Influence of past experiences related to weight on the present	5
	- Fear of putting on weight and going back to before	5
	- Struggling with my mind – internal battles	5
2. The impact of loose skin	- It reminds me of what I was before – excess skin as a reminder	4
	- You can't tell I've lost weight because of it – excess skin hides weight loss	5
	- I look like melted candle woman – excess skin is unsightly	5
3. Thoughts about food and disordered eating patterns	- The way I feel about food	5
	- Disordered eating behaviours	5
4. The role of relationships	- Relationship with therapist	5
	- Relationship with help and other professionals	5
	- Relationship with others	5
5. Surgery is life changing	- Positive and negative impacts of surgery	5
	- Managing expectations – the holistic value of this operation	5
	- Importance of information - it's very easy to find things that make you feel abnormal	4

## Questionnaire Data

In order to contextualise the sample, questionnaire data has been included to help provide additional descriptive information.

Scores on the HADS (Zigmond & Snaitch, 1983) indicate that most of the women had experienced symptoms associated with anxiety and depression over the past week.

For features of depression two participants scored within the normal range (score of 0-7), one participant scored within the borderline case range (score of 8-10), and two participants scored high enough for caseness (score of 11-21) (Mean = 8, Median = 9, SD = 5.57). Only one participant scored within the normal range for anxiety symptoms, with two participants scoring within the borderline case range, and two participants scoring within the case range (Mean = 10, Median = 10, SD = 3.94).

On the EDE-Q (Fairburn & Beglin, 1994) all the women scored higher than the community norm data for all sub-scales (Global: Mean = 4.72, Median = 4.8, SD = 0.95; Restraint: Mean = 4, Median = 3.8, SD = 1.66; Eating Concern: Mean = 3.92, Median = 3.8, SD = 1.11; Shape Concern: Mean = 5.63, Median = 5.63, SD = 0.46; and Weight Concern: Mean = 5.32, Median = 5.6, SD = 0.88) (see Appendix 18 for community norm scores), indicating that they had experienced eating-disordered behaviours over the past 28 days at higher levels than those seen in the general population.



Scores on the Clinical Assessment Questionnaire (CIA, Bohn et al., 2008) suggest that all but one of the women experienced a high level of secondary psychosocial impairment in their life due to eating disorder features such as eating habits, exercising, or feelings about their eating, shape or weight over the past 28 days (Scoring = 0 – 48, with a higher rating indicating a higher level of secondary psychosocial impairment. Mean = 35.4, Median = 40, SD = 14.17).

The Impact of Weight on QoL - Lite (IWQOL-Lite; Kolotkin et al., 2001) measured how the women's weight impacted on their quality of life (Mean = 55.64, Median = 64.52, SD = 24.24), with lower scores indicating poorer quality of life (Scoring = 0 – 100, where 0 = worst and 100 = best). The women's weight did not seem to significantly impact their mobility and day-to-day physical functioning (Mean = 87.27, Median = 90.91, SD = 15.21). All but one of the women indicated that their self-esteem was significantly impacted with concerns related to weight (Mean = 15.00, Median = 7.14, SD = 21.78). Three of the women indicated that they had sexual limitations related to their weight (Mean = 40.00, Median = 25.00, SD = 36.07). Only one of women indicated that they thought their weight impacted on them fitting in public places or related to negative reactions from others (Mean = 67.5, Median = 80, SD = 29.26). Only one of the women indicated that they were concerned about their work performance as it related to weight (Mean = 71.25, Median = 87.50, SD = 29.84).

The Multidimensional Body Self-Relations Questionnaire (MBSRQ, Brown, Cash, & Mikulka, 1990) measured the women's self-attitudinal aspects of different body-image constructs (see Appendix 19 for the adult norms and subscale interpretations). The women all scored below the community norms for appearance evaluation (Mean = 1.32, Median = 1.00, SD = 0.56) suggesting that they have a general unhappiness with their physical appearance. All the women scored below community norms for health evaluation (Mean = 2.63, Median = 2.83, SD = 0.70) suggesting that they feel unhealthy and experience bodily symptoms of illness or vulnerability to illness. The women all scored below community norms for body areas satisfaction (Mean = 1.67, Median = 1.67, SD = 0.18) suggesting that they are unhappy with their size or appearance of several areas of their body. All but one of the women scored above community norms for overweight preoccupation (Mean = 4.10, Median = 4.00, SD = 1.02) suggesting that they were impacted by fat anxiety, weight vigilance, dieting and eating restraint more than the general population. All the women scored higher than community norms for self-classified weight (Mean = 4.60, Median = 5, SD = 0.55), suggesting that they appraised themselves as more overweight.

### **Super-Ordinate Theme One: The past and how I feel about myself**

This super-ordinate theme comprised of three sub-ordinate themes, which are important when looked at in relation to one another. They cannot be looked at as three separate entities, as together they interact and lead to the development of restrictive eating behaviours. The sub-ordinate themes consisted of 'Influence of past life

experiences related to weight on the present’, ‘Fear of putting on weight and going back to before’, and ‘Struggling with my mind – internal battles’.

### **Influence of past experiences related to weight on the present**

All participants spoke about how past life experiences influenced their current experience of life post-bariatric surgery. Memories regarding weight played on their mind and negatively interacted with how they currently viewed themselves, which in turn influenced the development and maintenance of the restrictive eating disordered behaviours.

All of the women describe long-standing weight issues, with most reporting they were overweight from a young age. It seemed to be this longevity that was key to the current restrictive behaviours. The women had been living overweight for such a long time that the associated negative memories (e.g. bullying) had become particularly salient because so much emotion and distress was attached to them. The memories were often intrusive and led the women to become hyper-vigilant and anxious about their weight as they wanted to avoid going back there, leading to the restrictive eating behaviours.

*“... I started being overweight by the age of five so all my life I’ve been overweight I’ve never been happy with the way I looked” (Participant 3)*

*“I’ve had weight issues all my life really I was 11.2 born so it just seemed to come through all my life I got bigger as I got older erm it got to the point where I was very*

*depressed and suicidal er used to self-harm a lot cos I used to hate my body [...] it just got to a point where I just couldn't have kids I just felt my life was worthless what was the point in being here"* (Participant 4)

All of the women spoke about previous experiences of weight gain and attempts at weight loss, which had all been unsuccessful. It was this yo-yo dieting and continuous disappointment with non-surgical weight loss interventions that had led to the bariatric surgery.

*"I tried so many times to losing weight so many times like since I was 18 I tried losing weight all different ways and then I'd start a diet and as soon as I stopped the diet I put weight back on"* (Participant 2)

*"I've been on diets I'd lose a bit of weight but then my body would stop because I also had polycystic ovaries syndrome under active thyroid so it made it really difficult to lose weight I'd lose it at first just cos you change your diet but then I wouldn't and then I'd get depressed and then I comfort ate"* (Participant 4)

*"I've dieted all of my life always and I've always failed [...] I think I don't accept the fact that I've lost weight because I've always failed"* (Participant 5)

Important in the participants lived experience was the negative reactions they had received from other people, both strangers on the street and people they knew, regarding their weight before the surgery.

*“I had to eat it [a chocolate bar] on the street and then someone felt the need to just shout abuse at me about that I’m a fat C-word and what the hell do I think I’m doing”*  
(Participant 1)

*“It’s not unusual to have like homophobic abuse erm but yeah when they tack fat in there I dunno I seem to be a lot braver to be like ‘yes I am a lesbian and what? [...] but when someone calls me fat I just can’t cos I agree with them erm so I just can’t really bat that one back and then that’s yeah that’s enough to make me just consider doing all sorts of stupid things and if they’ve managed to find me in a low [...] it’s just just to be blunt you want to die you you there’s like suicidal ideation constantly it’s exhausting”* (Participant 1)

*“I can vividly remember how I felt before and what people would used to say to me and walking down the street and what people would shout out to you I can physically still remember how that made me feel”* (Participant 4)

*“... he was three we were at his birthday party and he was talking to someone and he said ‘oh Nanny’ and they said ‘oh which Nanny?’ and he said ‘oh fat Nanny’ [...] And I thought ‘oh my god I’m Fat Nanny I don’t really want to be a Nan but I don’t want to be a fat Nanny ((laughs)) erm so that hurt a little you know”* (Participant 5)

*“... without going in to it too much [husband] had a problem with my weight erm when I was overweight erm so it can be some days just a look just the way he looks at me will bring all that hurt back and that’s it I’ve gone again and I don’t just go for*

*the day it can go for a month or a week [...] it's because of you know the past and things and how I've felt about myself"* (Participant 5)

Participant 3 had experienced childhood bullying due to her weight:

*"I was bullied by these girls in school and they would just walk past me inside the canteen there was hundreds of kids sitting there and the kids are so cruel at that age and you know call me 'oh fatty' or you know 'oh you're breaking the chair' [...] and as I passed them they would trip me and then say 'oh look earthquake' you know 'a fat person's creating that' or I would walk and they would be like 'oh I hear the elephants' you know so it's cruel"* (Participant 3)

*"Yeah cos bullying can do things to you that you cannot imagine unless you've been bullied then you will know what I am talking about I for the sake of everyone and humanity don't I hope no one gets bullied you know especially not because of the way they look cos it's horrible at that age cos when that's your early teens and you start to develop and you think oh you know 'I'm fat I'm ugly if they are saying it it's what I am'"* (Participant 3)

In addition to other's views on their weight, their own past views of themselves also seemed to play a significant role:

*"I don't think I really cared to be honest cos I always was very depressed about my I went through a time of depression where I thought 'ergh who is going to look at this?' [...] for me it was 'let's eat lets eat who's looking at you I mean you know you're fat*

*you're ugly you're overweight no one is going to look at you so you might as well just sit down and eat this' is what I genuinely thought of myself and I think that's what made the depression worse and worse kind of like a vicious cycle"* (Participant 3)

*"I went through all my details and my history about self-harming how I felt suicidal about my weight and how it made me feel"* (Participant 4)

### **Fear of putting on weight and going back to how was before**

The dominance of past experiences of bullying and weight stigma as described above led all of the women to develop intense fears around regaining the weight they had lost from the bariatric surgery. The connection between weight gain and going back to their previous life and difficulties seemed to create anxiety and pressure around weighing and monitoring food intake. At times it seemed that the women thought that if they were not losing weight, then they were gaining weight.

*"I need the control and it has to be very very restricted and it's kind of all circled around getting the numbers down and losing weight that's every single thing so no matter what I'm doing it's always focused around that"* (Participant 1)

*"I don't enjoy eating I really don't enjoy eating now I hate eating erm I just don't like eating cos I constantly on my mind when I put something in my mouth I'm gonna get fat"* (Participant 2)

*“I was very concerned about weight gain post surgery and I told her that I didn’t want to go back to the person I was” (Participant 3)*

Post-surgery, it seemed that the act of eating immediately triggered memories of the women’s previous weight and their life at that weight.

*“... and I immediately think about the weight gain and I think ‘oh my god how many calories did I just eat? How much weight have I just put on by eating that piece of chocolate cake?’” (Participant 3)*

*‘... the main fear is putting weight back on [...] I was so terrified of going back’*  
(Participant 4)

*“... the reason why I struggle with the food is I don’t want to be here again I’m scared stiff of putting that weight back on” (Participant 5)*

The fear of weight gain was interwoven with a concern about stretching their stomach. This fear possibly activated past experiences of yo-yo dieting and not having the confidence that they could remain at a stable weight.

*“... my stomach is a smaller size now so if I eat all of this at once would it stretch my stomach? [...] and by my stomach being stretched of course that would have to as my mum calls it it’s a pot and unless you fill it it won’t be satisfied so I would have to fill it and fill it and fill it and I don’t want my stomach to be the size it was before for me to gain the weight back on” (Participant 3)*



*“... going to where I was before the operation cos I know you can stretch your stomach again and I’m terrified of that and that’s my main fear” (Participant 4)*

The fear of gaining weight was linked to thoughts about going through the surgery for nothing, and seemed to make the women hyper-sensitive to ‘protect’ the surgery, which reinforced dietary rules and other restrictive eating behaviours.

*“... ‘oh you’ve gone through this you know through this whole process putting yourself in danger going under the knife and you don’t wanna have the same eating habits that you did before and gain the weight so so everything that you’ve gone through it would have been for nothing’ so I still think the same way so when I have something naughty I’m thinking argh I went through this pain my wound leaking and everything and all the complications that I had” (Participant 3)*

*“Yeah it’s the fear of going through everything that I’ve been through and feeling like I wanted to take my life and I don’t want to go back to that” (Participant 4)*

Regarding the fear of weight gain, the literature suggests that for people who are post-bariatric surgery there is a reality that weight regain after surgery is a possibility.

Participant 4’s comment highlights the therapists agreeing that anxiety around weight gain is normal:

*“I try to think it’s normal that you’d be feared to go back to where you was and from speaking to [therapist] and [past therapist] they’ve said it is”.*

### **Struggling with my mind – internal battles**

The past experiences of the women and their fear of weight gain all filtered in to the negative way in which they thought about themselves. There was a sense that the weight stigma experienced by these women had been internalised and contributed to the restrictive eating behaviours.

*“... anything to do with my weight, body image, food all fall into the ‘this is why you are crap’ category without fail” (Participant 1)*

*“... most of us were brought up with ‘sticks and stone will break my bones but words will never hurt me’ that’s crap I’d rather have a stick and a stone at least that bruise will go a lot faster than actually the words cos I can replay the words [...] the words are going to stick in there and the memory of that event is going to stick in there erm and that’s pretty much what happens and then when you feel really crap about yourself regardless of any other mental health stuff I’m going to take a gambit and say this fairly sweep across the board thing that you do you just replay stuff that kind of reaffirms why you are crap” (Participant 1)*

*“... so I think I got rid of my material fatness but not my mental fat it’s still in there” (Participant 5)*

Three of the participants spoke about the idea of different people battling inside them. This may have reflected the difference between what they wanted versus what was right. When asked about this Participant 3 described the experience as demons:

*“... sometimes you know these demons that come up and say you know ‘you can’t have that’ or ‘you can have that and this and that’”*

While Participant 4 and 5 described it being like two people:

*“... sometimes I felt like I was battling two people the logical side of me and then the illogical side which was making me do what I was doing”* (Participant 4)

*“... there’s two there’s two heads here and you know I’m in turmoil I was fighting with myself”* (Participant 5)

For two participants the restrictive eating behaviours were influenced by difficulties adjusting to life post-bariatric surgery. The women struggled between ‘knowing’ that they had lost weight because of objective changes (i.e. numbers reducing on the scales) but still reported ‘feeling’ like they had not lost any weight.

*“... people say to me ‘you’ve lost so much weight’ yeah and in my mind [...] I haven’t I still look the same it’s so hard to like get a grips on like trying to explain to someone how you feel about yourself when they’re saying you have lost weight [...] but to me I haven’t so understand how I’m feeling it’s not how you see me it’s how I’m feeling I haven’t lost weight”* (Participant 2)

*“Erm (...) I still feel the same (...) erm (...) I know I’m not a size 24 but I still feel it”*

(Participant 5)

*“I don’t think I’ve quite accepted the fact that I’ve done it I’ve lost weight I think I’m still punishing myself for being that girl that ate all that food”* (Participant 5)

### **Super-Ordinate Theme Two: The impact of loose skin**

This super-ordinate theme comprises of three sub-ordinate themes entitled ‘It reminds me of what I was before – excess skin as a reminder’, ‘You can’t tell I’ve lost weight because of it – excess skin hides weight loss’ and ‘I look like melted candle woman – excess skin is unsightly’. Each sub-ordinate theme related to a different negative aspect of how the presence of excess skin impacted on the participants. They also mapped on to the themes of the past, weight gain and views about the self that were present in the previous super-ordinate theme above, adding additional ‘fuel’ to the desire to carry out restrictive eating disordered behaviours.

#### **It reminds me of what I was before – excess skin as a reminder**

The presence of excess skin contributed to the restrictive eating behaviours due to the skin acting as a reminder of the past and the women’s pre-surgery weight. This reminder of past eating and weight may have made the women feel more susceptible to regaining weight and lead to the restrictive eating behaviours.

*“My excess skin that’s the main reason why I won’t look in the mirror the reason why I still don’t feel there’s any change because of the amount of excess skin I’ve got it still makes me look fat and it’s still there to remind me of my fat and it’s just horrible”*

(Participant 2)

*“... it’s always there a reminder of what it was before what I was like before”*

(Participant 3)

*“... the skin reminds me of the weight [...] it just hangs there it reminds me of being bigger so when I see it I hate it cos it reminds me of that [...] reminds me of where I was so when I see that I remember how big I was because that’s why I’ve got the excess skin”* (Participant 4)

### **You can’t tell I’ve lost weight because of it – excess skin hides weight loss**

The accounts of all five participants were interspersed with descriptions of how the presence of excess skin masked their weight loss from the surgery. The main reason for this seemed to be due to the different way the skin ‘hung’ on the body compared to before the surgery. The skin folds may have lead to a silhouette that was different to the smooth outlines the women expected from the weight loss.

*“... even if it’s not loads of excess skin it’s not flat against you erm even if it was like normal weight gain a bit of pudgy but it carries differently is probably the easiest way to describe it because it gets to a point where it separates”* (Participant 1)

*“... when I was bigger overweight even if I put a dress on my stomach wasn't my stomach was hanging but not like this cos when there's skin hanging it's different than when there's fat hanging” (Participant 3)*

*“Yeah before it was tighter even though I was bigger the skin was tighter because it covered your fat really so it didn't sag and didn't crumple up like me legs look like they've got loads of craters in because of the way the skin hangs” (Participant 4)*

The consequences of this were that participants had to buy special clothing that held the excess skin in, which were often uncomfortable or did not adequately do the job, or they bought bigger sized clothing in an effort to hide the excess skin.

*“I've got a really lovely tummy holdy in thing to hold all the excess skin which just kind of folds over and looks gross” (Participant 1)*

*“... to have loss loads of weight erm but not be able to fit into like size 14 or size 12 or 16 or whatever you are trying to get because of the excess skin” (Participant 1)*

*“... you can get girdles and stuff that do your stomach and I've tried the ones that are longer but they cut in to the excess skin so it doesn't hide the legs as much as you'd want it to” (Participant 4)*

*“... I'd normally be a sort of 16 but I'll buy bigger clothes to hide the excess skin [...] I tend to buy baggier clothes so that you can't see it and that's just disguising it which I think anybody would” (Participant 4)*

The cumulative effect of this was that participants often described not being able to tell that they had lost the weight. The excess skin disguised the weight loss underneath and gave a false image of the women's true weight.

*"... because then I would realise I've lost weight I mean if like- when I hold my legs like that [lifted leg up and pinched skin tight] they look a bit like like I've lost weight but then I've got all of the excess skin and it's just you can't I can't tell I've lost weight because of it"* (Participant 2)

*"I think the way I look to be honest cos the first and foremost thing that comes to mind is the hanging belly [...] if it wasn't for this I'd be like 'oh you know I've lost all that weight I'm fine now I can just carry on and everything"* (Participant 3)

### **I look like melted candle woman – excess skin is unsightly**

A significant negative impact of the excess skin was its appearance, with the texture of 'empty' skin being different to when it was 'full'. The appearance of this empty skin interacted with participants' negative cognitions, restrictive eating behaviours, and impacted on their relationships.

*"... what no one was calculating till now is actually the impact of what it's like to look in the mirror [...] I look like melted candle woman, or a balloon that's been popped and it's all wrinkly and stuff with all the excess skin"* (Participant 1)

*“I feel if my excess skin weren’t there I think I’d be a lot more (pause) I dunno coping with the weight loss recognising it like noticing it and I’d be a lot more confident because the excess skin’s there alright it may not be fat no more but it still looks like fat and it’s still there a constant everyday reminder and that’s that’s the most thing I hate about my body it’s ergh it’s there and it’s just rank” (Participant 2)*

The women’s perceptions of the excess skin influenced how they thought others might view it and impacted on their relationships.

*“I always say this to my family especially to my husband and I say to him ‘you know I’m still a young woman it’s you know to have this hanging skin you know wobbly in front of me is not nice for me to look at’ [...] I’m a young woman I like to dress up you know I’m still oh gosh this sounds dirty sexually active with my husband you know I don’t want him to look at that” (Participant 3)*

*“... makes me hate my body don’t like I won’t even I have trouble being having a sexual relationship with my husband because of how I feel about myself erm don’t like being naked as much as I possibly can I’ll cover up” (Participant 4)*

Participant 4 reflects what the literature has reported regarding distress with one area moving to another if only one area of excess skin were to be reconstructed:

*“... it’s certain elements certain parts of me body are worse than others I hate all of it but my arms if I could cut them off myself I would because I hate me arms and then I’d say to me self ‘well if I did my arms I’d feel better about everything else because*



*you can hide that with different clothing and stuff' but then you think 'well no you can't' then I think I can't hide my legs as much as I can hide my stomach so I think it would just until I can get most of it removed I think it's always going to be something that I'll focus on even if I did my arms and I know they're me worst and then I know it's going to be me legs [...] so I think I'd just end up pushing it to another part of me body which would make me hate it even more"*

What was interesting was that Participant 5 had managed to rationalize the presence of her excess skin. She spoke of being told from "*the word go*" that there would be excess skin, although she understood that it was a problem for other people.

*"... you know I do understand what people say about the skin but we don't walk around naked do we you can hide it really"*

*"I'm 55 I think if you were a young girl you know in their 20's and you've got the rest of your life sort of but not at my age no"*

When asked about it further she said:

*"... it doesn't bother me because I am what I am [...] so yes its there and yes my stomach hangs does it bother me not at all no"*

This may be due to the impact of loose skin being age-congruent as Participant 5 was older than the other participants – 55-years-old, compared to the average age of 33.25years for the other four participants. She also reported that she was already

covered in stretch marks as she had had three children and had been with her husband since they were 14-years-old. These may have acted as protective factors against this particular aspect of distress.

*“... my boobs have dropped cos obviously I’ve lost quite a lot of my boobs I’m 55 I’ve been married 36 years you know I’ve been with my husband since I was 14 I’m not bothered I am what I am we’re all going to go old and wrinkle so no it doesn’t er that doesn’t bother me at all”*

*“... if I wanted to I could go and have my boobs lifted but they’re in a bra and ok they’re not up here anymore but I’m 55 they’re never going to be up here are they [...] but I’m covered in stretch marks I’ve had three children”*

The expectation that loose skin was more “normal” in older age was supported by Participant 3 considering if she would be bothered less by her excess skin if she were older:

*“I don’t mean it’s ok for anyone but [...] if I was say a 60 year old woman a 65 year old woman I wouldn’t care when I looked down there”*

### **Super-Ordinate Theme Three: Thoughts about food and disordered eating patterns**

This super-ordinate theme consisted of two sub-ordinate themes ‘The way I feel about food’ and ‘Disordered eating behaviours’.

### **The way I feel about food**

This sub-ordinate theme reflected how the women's thoughts about food had changed following the surgery. In most cases this was in an unhelpful way and linked in to the restrictive eating behaviours. There seemed to be a pattern of guilt around eating and not deserving food. It seemed that food was not to be enjoyed and almost had to be a punishment.

*"I won't have that salad because it tastes nice so it has to be something gross that I can't stand I don't understand why"* (Participant 1)

*"... on the few moments where I'm like oh this tastes really nice it's really nice to be out with my friends and this is good fun and then just like the guilt comes in like a massive pile of bricks erm and then I'll just go really quiet and I'll just hate it hate myself"* (Participant 1)

*"It's a constant worry constant I feel like I shouldn't eat constantly think that why should I be eating food when there's like loads of starving children out there and they need the food I don't need the food so why should I eat?"* (Participant 2)

There was also a sense that food was seen as a threat and was 'unsafe'/the enemy, and therefore had to be avoided.

*“I don’t want food to be my enemy again and do that to me again so that’s why I try to stay away from you know certain foods and emotions”* (Participant 3)

*“... if I know I’m in a bad what I call a bad food day I have safe foods as well so I’ll have like whole-wheat pasta with prawns and have very small portions”* (Participant 4)

Linked in to these more emotional changes regarding food there were practical concerns with a large focus and concern around how food had been cooked. Some of these concerns around cooking are likely to be eating disorder related, however it could also be related to post-surgical recommendations as food cooked in oil can trigger dumping syndrome.

*“... if I’ve not cooked it or I don’t know how it’s been cooked it’s a problem”*  
(Participant 4)

*“... even if I’ll have salmon and chicken and things and I still look at it and think “oh how have they cooked that chicken? Did they just throw it in oil?””* (Participant 5)

The restrictive eating behaviours were influenced by food being viewed differently post surgery. The women described food in a more functional manner, which led to less being consumed.

*“... for me it’s very much a have fuel it’s not an enjoyable thing”* (Participant 1)

*“I think it’s made me think about food in a different way where as before to me food was eat something to get full you know so I wasn’t thinking about the nutrition of it I wasn’t thinking about how it would affect my weight” (Participant 3)*

*“... before my problem was I couldn’t get enough of it now my problem is I need it to survive but I don’t want it I’m quite happy to push it to one side and fight with myself over it” (Participant 5)*

There also seemed to be this idea of “eating with the eyes”, so even though the participant hadn’t eaten the food, because they had seen it they felt like they had eaten it.

*“... even if I only have a tiny bit [...] if I ordered a meal and it was a thousand calories and I only had like that much [gestured a small amount] I would still be convinced that I had eaten a thousand calories” (Participant 1)*

*“... if I go anywhere that I’m not used to or it’s tapas or anything that you get a lot of food put in front of you I panic [...] just looking at it panics me” (Participant 4)*

*“I’ve got problems I’m avoiding food as much as I can socially [...] the minute all that food comes out I I just totally lose it really I can’t face food” (Participant 5)*

*“I can be in the busiest place with the nicest people the minute food is brought out it’s like I’m in a bubble and there’s just me and all this food around me and I can’t see past the rest of the night I can’t wait for the food to go” (Participant 5)*

## Disordered eating behaviours

This sub-ordinate theme captures the disordered eating behaviours that the women experienced. The ‘mechanism’ or ‘drive’ for carrying out these behaviours included memories of the past and fears about going back to their previous lives and difficulties, and were exacerbated by negative thoughts about the self and the presence of excess skin. The fears led the women to become overly strict, possibly not trusting that their body would not naturally regain the weight (as it had in previous weight loss attempts) unless they were exceptionally strict.

These behaviours included calorie counting and restriction:

*“... from just starving myself and erm not having- like having to work exceptionally hard to agree and reach even 500 calories in a day erm and I will meticulously count even the amount in milk and a cup of tea or a coffee or anything [...] to maybe be a bit healthier and edging towards eight or nine hundred calories very calorie controlled erm but then within that making sure that it’s not any food at all that I could possibly enjoy” (Participant 1)*

*“I restrict my eating quite badly” (Participant 4)*

*“I was skipping meals then it was see if I can go all day without anything to eat you know and then perhaps eat something at night [...] if I can go as long as possible without eating I do” (Participant 5)*

The restriction would continue even if it had physical consequences:

*“I could go days without food the only reason sometimes I do eat something is that I don’t feel very well I feel quite lightheaded [...] so a lot of the time I eat because I know my body is not coping very well really erm or I’ll just have a cup of tea a cup of tea will keep me going for another couple of hours really”* (Participant 5)

Disordered behaviours also included self-induced vomiting and the use of laxative-like medicine. These behaviours were carried out with the aim of “getting rid” of food that had been eaten, and limiting the amount of calories absorbed so that weight was not impacted.

*“... and then I’ll go and make myself sick and then I’ll feel better once I’ve made myself sick I don’t think about being fat and things like that”* (Participant 2)

*“If I was a kilogram out it would make me then start restricting quite badly to the point where I may have only been taking 700 calories a day then that developed into if I felt like that wasn’t working and I didn’t lose the weight I’d make myself sick erm and then that just progressively got worse to I was practically making myself sick after every meal”* (Participant 4)

*“It just it’s not a laxative but it’s just something that it’s a stool softener really but it helps get the food anything I’ve eaten through me quicker erm because if I do eat the first thing I do when I get in if we go out for something to eat is I don’t even take it on*

*a spoon I just take a good swig of that to make sure that anything I've eaten the following morning will come through"* (Participant 5)

The women spoke about the lack of logic in their behaviours. They wanted to change as they recognised their unhealthy relationship with food but at the same time felt unable to risk letting go of the restrictive eating behaviours.

*"... there's just no logic when it comes to food there is just no logic [...] erm the logic is screwed [...] when it comes to food there is no logic"* (Participant 1)

*"... if I decide right I'm going to make a change I will just end up looking up weird faddy diets and trying those but making sure I find the most restrictive ones [...] and the thing is I know I know that's not healthy eating I know that's not good for me I know that that means that I can't focus at work I know that that means I'm hangry to respond to- to reiterate my partner's language erm and I'm short tempered and and then on the flip side sometimes elated by the fact that I've completely restricted and I haven't eaten anything that day bar sips of water and some black coffee"* (Participant 1)

*"... there isn't a day goes by where I get up and think 'oh for god's sake stop it now just have your breakfast have your dinner have your tea and you're fine and it won't harm you' but I come down the stairs make my cup of tea and think 'oh perhaps I'll have breakfast about ten and then have lunch at four and then may get away without my tea' so I've actually talked myself into not eating before I've eaten anything"* (Participant 5)



The behaviours were sometimes brought on by physical sensations after eating and perhaps contributed to the development of restrictive behaviours as a way to avoid these sensations. Although there was not a sense of hyper-vigilance among the women per se, feelings of heaviness and fullness did activate worries about weight gain.

*“... if I think I’ve eaten too much or if I feel like I’ve ate too much so it could just be a full feeling but normal people say ‘I’m full’ but to me I’m over full and I’ll make myself sick cos I think I’ve ate too much even though I’ve not”* (Participant 4)

*“... sometimes I’ll eat something even a bit of salad and I feel like I’ve eaten a tonne of cement it’s heavy it feels uncomfortable erm so physically eating the food isn’t comfortable any more”* (Participant 5)

As the literature has stated it is hard to delineate between disordered eating behaviours and adherence to the post-surgical recommendations.

*“... there are certain golden rules to the diet sort of erm to small- to chew regular- erm chewing more erm you know not having fluids ten minutes before and 40minutes past any meal erm eating you know slowly er smaller bites erm so I’m trying to sort of keep to those the golden rules erm with my food I do have a pattern which means that I do follow what the dieticians have told me to do which is the three snacks and the three meals a day”* (Participant 3)

However, most of the women acknowledged the positive role food played in their life, if only they could stop the negative thinking.

*“... the days when I’ve ate really well not taken Lactulose the following day I feel great cos I’ve got more energy I feel better about myself I feel I feel a different person [...] other days I’m in the big mirror thinking ‘oh my god look how well you look’ but they are the days where I’ve eaten the day before so I know that that fuel in my body makes me feel better”* (Participant 5).

#### **Super-Ordinate Theme Four: The role of relationships**

This theme reflects the important role that relationships with different people have played in the lived experiences of these women. It was not that relationships necessarily influenced the occurrence of restrictive eating behaviours, more that the behaviours occurred in the context of relationships and subsequently had an impact on them. The restriction and disordered eating behaviours were often noticed and discussed in the context of these relationships. The super-ordinate theme comprised of three sub-ordinate themes: ‘Relationship with therapist’, ‘Relationship with help and other professionals’, and ‘Relationship with others’.

##### **Relationship with therapist**

The women were all working with a psychologist in the bariatric surgery service for support with their restrictive eating. The relationships between the women and their psychologists were important and were described in a positive manner.

*“Yeah you know [therapist] has definitely been a god send [...] it has definitely been life saving in many occasions” (Participant 1)*

*“It’s been do you know what it’s been quite easy talking to her I don’t know I don’t normally bother talking to people like before when I was younger I had counselling sessions and things like that psychological sessions I just sat there and I didn’t say nothing but now it’s been quite easy it’s been alright” (Participant 2)*

The relationship seemed to be valued as it provided a space to talk about feelings and thoughts, most of which have been mentioned in the preceding themes:

*“... it’s space to talk and space to think and space to work things through”*  
(Participant 1)

*“I noticed that as I spoke to her I know it sounds cheesy but when people say when you talk about something it gets easier it will [...] it helps to speak about to it about it to someone and I feel like in terms of like before surgery and post surgery [therapist] has been very helpful in terms of me being able to speak freely about my feelings about the about life” (Participant 3)*

*“I was thinking well I don’t know how it’s going to help me? But when I started to do it and they were questioning and making me look at it in different ways it sort of did help me look at things differently” (Participant 4)*

The women valued the way the therapist worked with them in a collaborative manner:

*“I think before the phrase I used was like a person centred approach [...] I think probing asking ensuring she gets clarification rather than making assumptions”*

(Participant 1)

*“... having access to someone to talk that through who isn't going to judge you and who listens but genuinely listens erm that makes all the difference”* (Participant 1)

*“I think she understands cos she's like trained in that [...] she didn't tell me like 'you've got to go and eat' and things like that she just said to me 'you've got to try a little bit' and things like that so she must understand because she knows like you aint- there aint no way I'm just going to go and try eat but she told me to just try soup and things like this so she's understanding because she understands like just a little bit”*

(Participant 2)

*“Yeah I'd rather be where I am now after all the support they've given me because I've got those tools that they've helped me to get an understanding that what I'm actually thinking isn't actually what's happening”* (Participant 4)

They also valued that the psychologist helped to manage their expectations by being honest with them:

*“... she gives you the way it is she doesn't sugar coat it [...] she gives you the facts [...] She'll tell you the truth she'll tell you as to what will happen because the last*

*thing as a patient you want to hear is something you know all the things positive and the flowers and the sunshine where it's actually not so she gives it to you the way it is but she reassures you"* (Participant 3)

### **Relationship with help and other professionals**

This sub-ordinate theme highlighted the important role of relationships with other professionals as well as past experiences of help. These experiences all influenced how the women approached seeking support for their current difficulties. Sometimes these experiences had been experienced as negative:

*"... they didn't even look at my face that's exactly what happens erm I'm not even sure if they actually listen to my answers if I'm honest"* (Participant 1)

*"It's like 'oh yeah you've put on a few kilos well you are seeing the dietician so I won't like moan at you about that' I'm like 'I'm seeing the dietician because I don't eat dude read the notes before you start saying stuff'"* (Participant 1)

*"I'd been to counselling before [...] at the time I just didn't want to face a lot of it [...] I don't think the counselling at certain points was helping me because I just it made me worse the more I thought about it"* (Participant 4)

Or mixed:

*“I really didn’t like this poor lady and it wasn’t her fault and to be fair at the end I bought her a lovely present cos I said ‘you know you’ve really helped me’ and I was just I was so off with her in the beginning cos I just thought ‘you stupid woman just sign your form and get rid of me!’ You know ‘what are you putting me through all this for?’ Erm but she did help you know she definitely helped me cos I think had I have not gone if she had signed after week one I don’t know where I’d be now” (Participant 5)*

However, there were also experiences of help from other professionals being more supportive:

*“... even prior to surgery the whole reason as to why I had to see [...] the dietician was to sort of train me in a way and sort of guide me through my eating habits to get me started for the surgery and for that journey afterward” (Participant 3)*

*“... the fact that they didn’t say ‘no you’re fine go away’ I was relieved really so yeah I was yeah I definitely needed something and was quite happy that that was offered for me really” (Participant 5)*

The women spoke about how they experienced the maximum of two years support as not being helpful:

*“So yeah just having it accessible I really can’t say that enough [...] to try and get access to mental health support within the bariatric surgery team because after a*

*certain period of time they say 'well off you go' erm and yeah if they've got those barriers then they're just being left without anything"* (Participant 1)

*"I've done my two years erm so these I mean I was quite upset actually I saw them just before Christmas about the 18<sup>th</sup> December because after two years you're discharged"* (Participant 5)

*"... if I had a problem within that two years I could phone them up that's gone now so you're left out not on a limb they've done their job you know that's what they I've had the surgery it's a success and off you go"* (Participant 5)

### **Relationship with others**

This sub-ordinate theme captured the women's experiences of relationships with family, friends and partners. All the women were in significant relationships, either married or engaged and these relationships had been negatively impacted by the restrictive behaviours, which reinforced the negative cognitions the women had about themselves.

*"I then really struggled to be intimate with anyone new and I struggle with intimacy the more weight I lost the more I struggled with intimacy with my ex-wife and with any partners that came after her"* (Participant 1)

*"... my partner gets a bit bored of me never wanting to go out to eat or want to eat what she's cooked or you know constantly saying 'oh no I've eaten at work' which I*

*haven't erm or just not- making sure that I don't come home until after dinner time so that way she can't force me to eat what she's made"* (Participant 1)

*"... it's starting to sort of reflect on others so if I see my sister have something fattening I'll be like 'oh you know don't eat that do you know how fattening that is? [...] so it's like it's starting to be annoying to other people and I don't want to come across as annoying"* (Participant 3)

*"... he said 'do you think you've been hiding everything from us?' You know I thought 'they don't know how I feel I'm ok I'm getting away with this' but I wasn't getting away with anything and he said 'I know you're struggling why do you think I'm saying can you please eat breakfast ok you've not had breakfast can you have some lunch why aren't you eating with us tonight?' But I thought I was hiding it all and obviously I wasn't was I"* (Participant 5)

The women frequently felt alone with their negative thoughts and had a sense that no one else really understood what they were going through. People not really understanding what it is like to go through bariatric surgery, let alone the development of restrictive eating difficulties may have compounded this feeling of being alone. In effect there were two areas that might make the women feel alone or different.

*"... no one really understands the impacts"* (Participant 1)



*“I don’t think no one will ever truly understand [...] it’s like in my head I know I haven’t [lost weight] and its difficult it’s really difficult to tell anyone so I just don’t even bother no more don’t even try” (Participant 2)*

*“... my friends as well they say they always say to me ‘oh you’re obsessed it’s not healthy you’re obsessed’ no it’s not me being obsessed if you’ve been in my shoes before you would think the same way” (Participant 3)*

*“I’ve tried [husband] just doesn’t understand he doesn’t get it” (Participant 5)*

This idea of being alone links in with a later super-ordinate theme around the importance of information, as knowing that other people also felt the same was important.

*“... when I did speak to [therapist] and she said ‘you’re not the only one’ I was relieved” (Participant 5).*

Although relationships with significant others had been negatively impacted by the behaviours, they were also seen as a source of support:

*“I think if it weren’t for my partner I don’t think I would have bothered trying [...] if it weren’t for my partner keep going on at me to eat and not be sick and that I don’t think I would have stopped I wouldn’t have stopped I know I wouldn’t have stopped” (Participant 2)*

For Participant 4, her sister was a particularly important source of support, having experienced an eating disorder previously too, and it was this that encouraged her to recognise that something was wrong and seek help.

*“... my sister went through it and I saw what she struggled with [...] I’m sure she had this eating disorder because we were all big and she was terrified of getting to that stage [...] she was like seven stone at the lowest that she got to and she’s like 5ft6 but she still thought that was fat and stuff like that but she’s a lot better now which has helped me because she understands some of the stuff that I’ve got now so we talk about it more to each other”*

Participant 3 and Participant 4 both had young daughters. Their relationships with them played a significant role in their lived experiences, either due to a fear that their daughters might become overweight:

*“... my daughter she she’s nearly five years old and she has a good appetite for a toddler that size for that that age and I’m always like ‘ok you can’t have this you can’t have that’ my husband says ‘don’t say that to a child you’re going to create things in their head that it’s not ok to do this and that’ (Participant 3)*

Or as a protective factor against the negative eating behaviours:

*“... because me and me sister have now both had issues with food I’m terrified that it will pass on to her so I’m trying to break that cycle so that’s why I try so hard to*

*distract myself whether to stop myself doing that so she has helped a lot [daughter] ”*

(Participant 4)

At times some of the women were able to acknowledge the positive impact the surgery had had on relationships:

*“I mean as in I like looking in the mirror now and even my husband says to me ‘oh’ cos before don’t forget I was seven stone bigger than I was basically double what I am now and even my husband the other day he holds my I still have this [pinches hip] but he holds me there and goes ‘you’ve actually got a waist’ and I’m like ‘oh thank you that’s what I wanted to hear for years and years”* (Participant 3)

*“That made me feel quite good actually in a way you know when people that I’ve not seen for a while are like ‘oh my god I didn’t recognise you you look really really well”* (Participant 5)

### **Super-Ordinate Theme Five: Surgery is life changing**

This super-ordinate theme reflected the impact surgery had on participants’ lives and the way management of expectations and information played a role in the development of the restrictive eating behaviours. It comprised of three sub-ordinate themes: ‘Positive and negative impacts of surgery’, ‘Managing expectations - the holistic value of this operation’ and ‘Importance of information - it’s very easy to find things that make you feel abnormal’.

## **Positive and negative impacts of surgery**

This sub-ordinate theme focuses on the impact of surgery, both positive and negative, and the conflict this brought to the women. The women viewed the bariatric surgery as a major surgical procedure:

*“... you know at some point this team sort of did a life changing thing for all the right reasons but did a life changing thing to me” (Participant 1)*

*“... you’ve just got to learn to adapt after the surgery because you are totally different you’re body is totally different” (Participant 4)*

Understandably, the surgery had been undertaken with an aim of improving quality of life:

*“... if I didn’t get the surgery if my doctor hadn’t referred me I think I would have I might not have been here now” (Participant 4)*

However, what seemed key in the lived experience of these women, was that this was not always the reality:

*“I was like ‘ok I’m prepared I’ve got this’ like it’s going to be a life changing thing [...] there’s going to be a bit of excess skin but I was in my early 20’s and I’m like ‘it will snap back and it will be ok and I do go to the gym and blah blah blah’ and then that wasn’t the reality isn’t my reality” (Participant 1)*

*“... all these extra things I I wasn't- they weren't demons I was battling that now are there I never had an issue with hating the way I looked and now I do and that has consequences and massive domino effects on all sorts of things” (Participant 1)*

There was a sense of ‘unpreparedness’ for the impacts of the surgery, including the physical consequences such as feeling nauseous and changes to how food was experienced:

*“... yeah the the massive impacts on your mental health and therefore how you treat food and stuff I was not prepared for at all” (Participant 1)*

*“... things like fatty things and that it's just a no go cos the taste of them in my mouth ever since I've had this operation the taste of things has gone big and like say if someone cooked chips in oil I just can taste oil and that's it” (Participant 2)*

*“... there was a time post surgery I think it was in the first two three months that every single thing I ate made me nauseous so I had to be very very careful as to what foods I would eat what consistency they would be erm for me to sort of be able to keep it down” (Participant 3)*

*“... because I was being sick and like dumping after eating meat particularly it laid heavy on my stomach that I thought 'oh I've eaten too much' and then that triggered and kept developing even bigger and bigger and bigger” (Participant 4)*

To the point that some people regretted having the surgery:

*“... if I had known that I was going end up with such a screwed up view of food I probably would have thought a lot differently if I had known that this was going to be my life like then I don’t know I don’t know if I would’ve had the operation I don’t know if I would have tried a different way” (Participant 1)*

*“... the one thing I would say to myself like if I was speaking to myself this time last year I would’ve said forget it don’t have it done” (Participant 2)*

Some of the women described how the surgery had had a negative effect on their self-confidence, viewing themselves as more confident before the surgery and describing the areas of their life where their weight didn’t hold them back before the surgery. Looking back, they perhaps implied that their weight was less of an issue for themselves than it was for society. This emphasis on the past, and the way things used to be, seemed to keep them stuck in negative thoughts about themselves and restrictive eating behaviours.

*“I wasn’t obsessed about food. Society told me I should obsess about diets and doctors told me that I should obsess about them but actually I was very confident I would go out clubbing and stuff all the time” (Participant 1)*

*“I didn’t have an issue about picking people up I didn’t have an issue about sexual prowess erm if anything I should have had more issues about them being a little bit too slutty for my own good so I didn’t have any problems you know I went across to*

*the States and I met someone on holiday and I flew back and I asked her to marry me and all this other stuff [...] I didn't have any of those problems I was a very full of myself confident young person up until erm- and I didn't have any issue about being naked or anything like that or the way I looked which I should have but I didn't and then post bypass I look like melted candle woman"* (Participant 1)

*"I wasn't unhappy with being fat because I had so much confidence I could go and do things and have a laugh even though I was fatter [...] I've gone through all of that and now I'm still not happy neither I'm like then I was so happy like obviously I was unhappy with my weight but I was happier in myself and now I'm just I just want to be like the old me"* (Participant 2)

*"I used to enjoy going out I used to find it quite a social event go out with my friends not have to worry about it now I hate it I hate going out if I know I'm going out to eat it's a massive I'll stress about it all day"* (Participant 4)

Although some of the participants clearly viewed the surgery negatively, for example Participant 1 and 2, the paradox of these negative experiences, was that some of the women also spoke about clear positive experiences, for example Participant 3 and 5. There was also some ambivalence present with Participant 4 highlighting both negative and positive attributes of the surgery.

*"... where as now [...] I love to look into the mirror I take pride- [...] I do my hair I do my make up where as before I would never would have thought to sort of do my hair"* (Participant 3)

*“... for me to sort of sit here now and think ok I’m getting there it’s a huge deal for me” (Participant 3)*

*“... the fact that I can cross my legs is amazing you know I know it sounds stupid ((laughs)) one of my friends said ‘what’s your best what’s your you know what do you feel best about the surgery?’ I said ‘I can cross my legs’” (Participant 5)*

*“I think overall surgery god I’d recommend it to anybody it’s the best thing I ever did you know I wouldn’t think twice I’d have it again if I had to” (Participant 5)*

Some of the women spoke about how before the surgery they had been pretending to be someone else, having the surgery allowed them to feel and act in a way that was more ‘true’ to them:

*“... when I was bigger because I just hated my life people used to just judge and I used to be something that I wasn’t I used to try and put a personality on that really I wasn’t that’s changed I feel more of myself now than I did before the operation because I was trying to be this be this happy person that people thought doesn’t bother her but deep down it did and now I feel like I can be more myself more the quiet person not the centre of attention that I was trying to be then” (Participant 4)*

*“I was always the life and soul of the party ‘ohh let’s invite [participant] she likes a drink she likes a laugh she’ll entertain everybody’ erm but I was hiding behind my fat and my food” (Participant 5)*



## **Managing expectations – the holistic value of this operation**

During the analysis and initial coding of the interview transcripts the idea of ‘mixed messages’ and a ‘mis-match of expectations’ frequently came up for the researcher. This concept often seemed to be in relation to processing the impacts of surgery, but seemed to play a role in the restrictive eating behaviours as they occurred in the presence of unmet expectations.

The reasons people went for the surgery varied:

*“... my predominant reason for wanting to have a gastric bypass was to try and help me lose enough weight to then hopefully have a hip replacement”* (Participant 1)

*“I wanted to have the surgery [...] I wanna lose weight I wanna get healthy I want to go to the gym I wanna go swimming with my children”* (Participant 2)

For some of the women it seemed that the surgery had been sold on specific outcomes and expectations:

*“... so the value is to the NHS erm and then to my life I suppose is huge in one respect”* (Participant 1)

*“... everything was just sold about the weight loss and the numbers and there was a few people who had had you know were then talking about the skin erm but most of*

*them were like 'yeah but you know you are very young and you are going to the gym so it will just snap back' kind of thing"* (Participant 1)

But some of these expectations came from the women themselves:

*"... actually the health benefits of having a gastric bypass out weigh the health consequences the physical health consequences of having excess skin"* (Participant 1)

*"... at the time I weighed 115 kilograms and I said 'oh my god I would love to weigh half of what I am now 50 kilograms and do this and that' so she [therapist] is very realistic so she said 'it may happen for you it may happen not'"* (Participant 3)

*"Now with that I mean the perfect body for me would be a flat stomach and these big thighs and this big backside which I know that you have to work towards something like that it wouldn't happen overnight and the flat stomach so that's like that's my perception of a perfect body but I'm not saying that I will ever reach that hopefully I will"* (Participant 3)

Which did not always match up to the reality – with the presence of unmet expectations as well as having other difficulties to deal with:

*"... so on the really crude calculations it's so much better for you but what no one was calculating till now is actually the impact of what it's like to look in the mirror"* (Participant 1)

*“I wasn’t told that I was going to have so much excess skin I was told that I was going to have a little tiny bit they said it would probably go back to normal because you’re only young it aint going no where” (Participant 2)*

*“I just feel like it was a waste of time having the operation because I aint really lost that much weight and just it was a waste of time because I feel sad now and I didn’t then I used to be happy I’m not now” (Participant 2)*

*“... at the time I thought that would have been the cure but then it developed into the opposite” (Participant 4)*

*“I knew as soon as I lost the weight I’d have excess skin because my skin was that stretched it wouldn’t its lost its elasticity so it wouldn’t just spring back because of how long I was over weight for so I knew I would have it and I thought in my head I’d be able to cope with that because you can cover it up and hide it and to an extent I do cover it up and I do hide it and people wouldn’t think I’ve got an issue with it [...] so I knew I’d have it but I didn’t think I’d hate it as much as I did I thought I’d be able to live with that because I wasn’t big and healthier” (Participant 4)*

The mis-match around the desired or expected outcomes of the surgery contributed to the development of the restrictive eating behaviours as a way to try and meet these goals. The women’s need to manage expectations seemed to lead back into their negative thinking, with a sense of guilt around feeling anything but happy and grateful for the surgery.

*“It can feel like you’re a massive failure if you put weight back on or if you’re struggling or heaven forbid if you feel ungrateful like oh my god that’s the biggest backlash” (Participant 1)*

The women themselves spoke about the need to manage expectations:

*“... get me prepared for the journey ahead [...] get me ready for this journey both physically erm and from a sort of psychiatric point of view as well cos I was told by erm [therapist] from our first appointment that we want these were her words ‘we want to get our patients ready for what’s coming because the last thing we want is for a patient to go under the knife and come back and think oh what have I done?’”*  
(Participant 3)

*“I think anybody going into surgery and expecting to come out with an ironing board stomach is deluded you know well I don’t think they’ve had the right help if that’s how they’re feeling you know cos I was told from word go” (Participant 5)*

As mentioned in the Introduction, some of the women spoke about the need for a more holistic view of how bariatric surgery is measured, with the numbers not reflecting the women’s experience after surgery.

*“it’s very crude to try and squeeze something into a number erm and it’s it’s difficult to quantify the consequences” (Participant 1)*

*“... also is that the definition of work? Is it just the numbers on the scale or is it where’s your head at? And I would posit it’s both actually where your head at is worth more because the numbers on the scale can fluctuate erm also they only have as much importance as the people who are measuring that as a measurement for success [...] everyone else who will come in to contact with you forever they are impacted by where your head is at”* (Participant 1)

### **Importance of information - it’s very easy to find things that make you feel abnormal**

Following on from the sub-ordinate theme of managing expectations, all the women referenced the importance of having accurate information. A lot of the uncertainty and distress that was associated with the restrictive eating behaviours stemmed from not having enough information.

*“I hope that what ever comes out of it can go towards I suppose education for everyone whether it’s the professionals treating the people or whether it’s actually more information out there for the people who are er going to go down this path”*  
(Participant 1)

Accurate information seemed especially important in managing the expectations of people who may have put bariatric surgery up on a pedestal, highlighting that some problems may remain and there may be new ones too. The women spoke about how with the availability of the Internet it is easy to find information that is less helpful.

*“... it might not all be a bed of roses after which I think the majority of people do think it’s going to be once you’ve lost your weight everything’s going to be great and for some people it is because they’ll be just happy to lose the weight and the excess skin might not be an issue” (Participant 4)*

*“... it’s not that difficult for you to Google weight loss stories [...] you will come across people who look like they were never large ever erm you know hardly any stretch marks or what ever else [...] you know a little bit of mummy tummy but nothing terrible and you see the before picture and you’re like ‘blimey’ like how is that- so it’s very easy to find things that make you feel abnormal” (Participant 1)*

How information is presented was also highlighted as important:

*“... you should make sure that any information is kind of put into a easily digestible format and disseminated and things that you learn and things that are new and keep in touch with the patients after they’ve been cut open” (Participant 1)*

*“... it might be worth saying to people ‘look there is a possibility that this could happen but as soon as you see these signs you need to get in contact’”(Participant 4)*

The women spoke about information allowing people who were struggling to know that they were not alone as well as raising awareness that certain behaviours were not part of “normal” post-surgery life.

*“I did think they’d say, ‘oh that’s normal off you go’ erm and I did I was thinking what will I do when they do that? Where will I go cos I knew I didn’t feel right but I didn’t know if that was normal and part of the erm the process really of the surgery after the surgery the next two years this is how you’re going to feel and then one day this light switch will turn on and you will be fine” (Participant 5)*

As Participant 4 mentioned, people may not realise they have a problem if they do not know about eating disorders after surgery, with most people holding the stereotypical view that a person needs to have a very low BMI to have anorexic behaviours.

*“If you’ve never seen someone with an eating disorder you won’t know that making [yourself sick] although it’s all over the news and stuff after you’ve been big you might think ‘oh well this is what this is what I must do after the surgery just to make sure I’m alright’ it’s making people aware that you can develop something after” (Participant 4)*

This is clearly evidenced by Participant 5 struggling to process her psychologist discussing anorexia nervosa with her:

*“... she said that I was anorexic which is ridiculous cos how can I be anorexic and be this size? [...] my next-door neighbour’s anorexic she went down to five stone she’s not very well and when I look at my neighbour and I look at me I’m not anorexic”.*

## Chapter 4: Discussion

This study explored the experiences of women who had developed restrictive eating behaviours after bariatric surgery. Data were analysed using the principles of IPA (Smith et al., 2009) and aimed to explore the following research question and aims:

1. What are the lived experiences of women who have developed restrictive eating disordered behaviours after bariatric surgery?

The general aims for this study are:

1. To see if the findings of this study can help identify clients who may be at risk of developing restrictive eating behaviours after bariatric surgery
2. To see if the findings of this study can have an influence on policy and practice in this area

This concluding chapter reviews the findings of the current study in relation to the research question, general aims, and existing literature, and considers implications for clinical practice. The strengths and limitation of the study are then discussed before exploring ideas for future research. Finally, the researcher's personal reflections will be presented.

**Research Question: What are the lived experiences of women who have developed restrictive eating disordered behaviours after bariatric surgery?**

This qualitative study allowed women who had undergone bariatric surgery and developed restrictive eating disordered behaviours to share their innermost thoughts, feelings, concerns, and whatever else was relevant to them regarding the experience.

The analysis revealed five super-ordinate themes:



- The past and how I feel about myself
- The impact of loose skin
- Thoughts about food and disordered eating patterns
- The role of relationships
- Surgery is life changing

The themes will be expanded on in turn, however Figure 1 provides a diagrammatic representation of the themes and their relationship to the individuals' experience. The women all underwent bariatric surgery, which was experienced as life changing and not all of the outcomes were expected. The impact of the surgery interplayed with the women's memories from past weight experiences, their fear of weight gain, and negative thoughts about the self in the context of weight, which were all often exacerbated by the presence of excess skin. This all deepened the view that surgery was life changing as not all of the outcomes were expected. The surgery impacted on how food was thought about and this aggravated the eating disordered behaviours, which again fed back in to surgery being viewed as life changing. The memories from past weight experiences, the fear of weight gain and the negative thoughts about the self influenced how the women thought about food and resulted in the development of restrictive eating behaviours, which intensified the negative thoughts about the self, the fears of weight gain and memories from the past. All of this was occurring in the context of relationships both personal and professional.

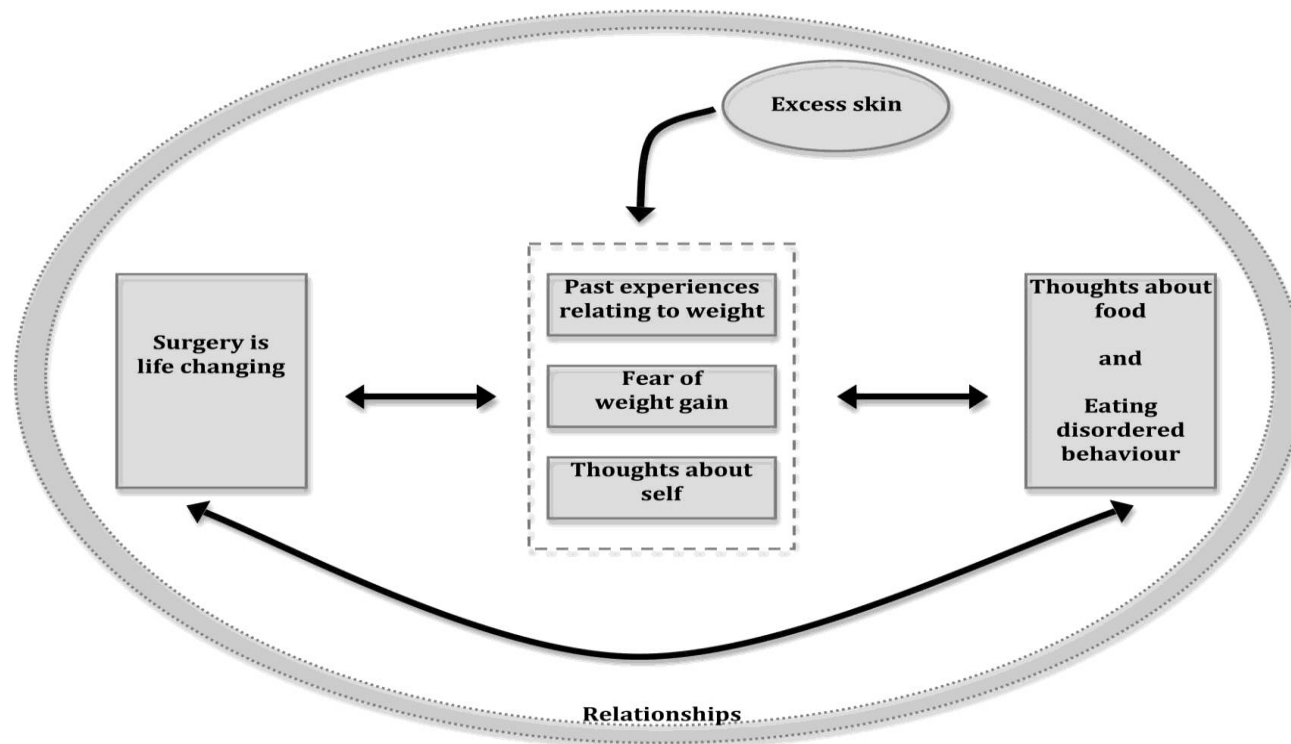


Figure 1. Diagrammatic representation of the study themes and their relationship to the individuals' experience.

## **The past and how I feel about myself**

*“A person’s past experiences give meaning to present events”* (Cassell, 1998, p.8). A key finding in the experiences of these women was the interaction between past experiences and fear of weight gain. When talking about the development or maintenance of the restrictive eating behaviours, the women all referenced how experiences from the past, relating to their weight, played on their mind and led to an increased fear of regaining their lost weight and going back to how they were before the surgery. This mostly stemmed from negative experiences from other people, for example having had abuse shouted at them on the street by strangers, as well as their own negative views of themselves due to their weight. These findings mirror previous studies (Conceição et al., 2013b; Conceição et al., 2015; Guisado et al., 2002; Marino et al., 2012), which have found that individuals who were seeking bariatric surgery described a negative pre-surgery quality of life stemming from weight related stigmatisation (Park, 2015).

Difficult and adverse experiences have been implicated in the development of anorexia nervosa, as well as in the development of eating disorders in general, with teasing, criticism, and bullying related to eating behaviour or body image associated with increased risk of developing an eating disorder (Baldofski et al., 2015; Fairburn, Cooper, Doll, & Welch, 1999; Nicholls, Statham, Costa, Micali, & Viner, 2016; Treasure & Cardi, 2017). It may be that the weight stigma these women experienced, from childhood bullying to encounters as an adult, were adverse enough to lead to the development of the restrictive eating behaviours following the bariatric surgery in an attempt to avoid regaining their lost weight. This may be due to the vivid memories

the women had of how difficult and challenging life was pre-surgery, in part due to weight stigma, causing them to overcompensate, leading to the overly restrictive behaviours. In line with Strober's (2004) fear-conditioning paradigm of anorexia nervosa, the understandable fear of gaining weight and going back to how they were before surgery may have rapidly progressed in to an absolute and unrelenting fear in these women resulting in food avoidance. As these behaviours continued, they became crystallised and resistant to rational argument, the brain became increasingly starved of energy, and so the obsessionality and perseveration intensified.

Weight stigma has been associated with psychological distress such as depression, anxiety, lower self-esteem, and body image (Friedman et al., 2008). Anxious avoidance of emotions has been highlighted as a predisposing factor for the development of anorexia, with an increased sensitivity to stress or negative emotions (Treasure & Schmidt, 2013). This fits in with the findings of this study where the women's ability to vividly recall distressing memories meant that they were fearful of weight gain, and it was this fear that drove the restrictive behaviours. The women's own negative views of their weight and their self-focused disdain likely compounded this. These may have stemmed from the women internalizing the weight stigma they had experienced, as well as society's strong imposed thin ideal, which places a particular pressure on women's body shapes, and degree of thinness (Day et al., 2009; Levitt, 2006; Pike & Dunne, 2015).

Following on from Cserjesi et al.'s (2010) findings, where participants with anorexia nervosa attributed a more negative value to fatness, these women all had negative associations with fatness which may have contributed to the development of

restrictive eating behaviours, not through a positive evaluation of thinness (though all wanted to be at a lower weight) but through their strong negative evaluation of overweight. Eating restrictively may have been an attempt by the women to avoid anxiety (Levinson et al., 2014). However, the women may have also experienced a strong, and potentially addictive, sense of achievement from restricting due to their past difficulties with losing and maintaining weight loss.

Some of the women mentioned that at times it felt like there were ‘two people’ battling it out in their heads – the ‘logical’ side and an ‘illogical’ side, a ‘fat’ person and a ‘thin’ person. This links in to the growing body of literature regarding the ‘anorexic voice’, whereby individuals with anorexia hear a critical-internal dialogue. This voice is normally experienced as internally based, rather than externally generated (Pugh & Waller, 2016). However unlike more typical thoughts it is normally described as a second or third person commentary on actions and consequences relating to eating, weight and shape. The examples from this study were not explored further so it is unclear if the women’s experiences directly map on to this phenomenon. However, it is important to note that in anorexia nervosa, the voice is often critical of body size and shape and encourages engagement in anorexic behaviours such as restriction (Williams & Reid, 2012). These aspects were similar to those experienced by the women in this study. The cause of this critical-internal voice is still unclear though possible factors include the internalization of critical messages from the past, the intrusion of dissociated cognitive content into conscious awareness, as well as the effects of extended starvation (Pugh, 2016; Pugh & Waller, 2016). The anorexic voice could therefore be viewed as a maintaining factor of

anorexia, and may be relevant in perpetuating the restrictive eating behaviours experienced by these women following bariatric surgery.

### **The impact of loose skin**

The presence of “*undue influence of body weight or shape on self-evaluation*” (Criterion C for Anorexia Nervosa in DSM-V; APA, 2013) in the women’s accounts of their experiences was often associated with distress and dissatisfaction with excess skin, and was also seen in Conceição et al.’s (2013a) study participants.

The excess skin seemed to compound multiple sources of distress for these women. It acted as a reminder of past eating and weight, and triggered memories of past experiences of weight stigma and the associated distress. The texture and unsightly nature of the excess skin interacted and intensified the women’s negative cognitions about themselves. Although the women knew that the restrictive behaviours would not improve the skin, the presence of it alone was enough to incite fear around weight gain and going back to how they were before. This may have caused the women to feel more vulnerable to regaining their weight leading to the restrictive eating.

The role of body image in the development of anorexia nervosa and eating disorders has already been discussed (Gilmartin, 2013; Price et al., 2014). The women described the presence of loose skin as unsightly, which led to feelings of shame, embarrassment and dissatisfaction, all of which have been shown to impact negatively on body image (Baillot et al., 2013; Kitzinger et al., 2012; Swan & Andrews, 2003). Over-evaluation of shape and weight in determining self worth, may have negatively

interacted with the presence of excess skin (Fairburn, 2008; Fairburn et al., 1998).

The women may have identified with societal standards of an ‘ideal’ body, and the excess skin likely led them to unfavourably compare themselves to this ideal, leading to increased body dissatisfaction. In addition to this, the women may have been predisposed to body image distress due to previously experiencing distress related to their overweight appearance. Post surgery this may have then shifted to distress around the excess skin (Lyons et al., 2014).

The historical weight stigmatizing experiences of these women may have activated vulnerabilities, making them more susceptible to societal rules and making certain aspects of their appearance more significant, such as excess skin (Wu et al., 2014).

The women’s focus on the detail of their excess skin (and their weight) links in with pre-morbid vulnerabilities in the development of anorexia nervosa which include a strong focus on the detail and cognitive inflexibility; with obsessive-compulsive traits and cognitive rigidity all being highlighted as predisposing factors (Treasure & Schmidt, 2013).

The excess skin masked the women’s ‘true’ weight leading to uncertainty and overestimation of their body fat, likely increasing body dissatisfaction; a key mechanism in the development of restrictive eating behaviours (Benninghoven et al., 2006). The excess skin may have impacted upon the process of “*adopting a new ‘thin’ or ‘normal’ identity*” (Wood & Ogden, 2015, p.8) due to a sense that they have not been able to achieve this new identity so far due to the excess skin hiding it.

## **Thoughts about food and disordered eating patterns**

The way that food was perceived seemed to change following surgery. The majority of the women described food as being more a source of fuel and energy, a necessity, rather than a source of enjoyment. Wood & Ogden (2015) reported that participants who successfully lost weight following bariatric surgery were more likely to have functionalised food; that is they regarded food as a tool to stay healthy. Their study suggested that functionalizing food could help reduce the return of old eating habits. In this study the way participants thought about food, at times viewing it more as a fuel, was highlighted as a maintaining factor to their restrictive eating behaviours. The women reported only eating small amounts, enough to survive or to stop them feeling lightheaded. Wood & Ogden propose functionalisation of food as a positive outcome for consolidation of positive thoughts and behaviours related to eating following surgery, while in this study it could be potentially be a negative maintaining factor. This could be an area to explore further in post-surgery follow up.

Control over eating has been explored as a maintaining factor in the anorexia nervosa literature (Fairburn et al., 1998; Froreich et al., 2017). Classically, this has been due to individuals wanting to have control over something in their lives because they felt out of control in the rest of their lives. This did not appear to be the case in this study. If the women did mention control, it focused more on restriction and control of food intake as a way to avoid weight gain and going back to how they were before the surgery. However, although not specifically measured in this study, obsessive-compulsive traits may have played an important role in the progression of these restrictive behaviours, having been implicated in the development and maintenance of



anorexia nervosa and obesity (Wu et al., 2014). These vulnerabilities may have been triggered by the intense focus on food and eating behaviours that is encouraged post surgery. The rules then develop into rigid habits, and due to the brain beginning to be starved of energy; it becomes more rigid, leading to the maintenance and inflexibility of unhelpful beliefs and behaviours. All the women spoke about being preoccupied with food and rigidly following rules around eating. These included specific amounts of calories, rules for what food was 'safe' and what food was to be avoided, as well as how food had been cooked. Breaking these rules lead to feelings of distress and guilt and intensified fears around weight gain.

It has been shown that the majority of people with anorexia nervosa have co-morbid anxiety disorders and even those without a diagnosis of anxiety disorders reported higher levels of anxiety, harm avoidance and perfectionism than community samples (Kaye, Bulik, Thornton, Barbarich, & Masters, 2004). The restrictive eating behaviours may have been a way for the women to manage anxiety and negative affect caused by the memories of weight stigmatizing experiences (Friedman et al., 2008). As the risk of developing anorexia nervosa is significantly higher in people with diagnosed anxiety disorders (Meier et al., 2015) this may have led to these women developing the restrictive eating behaviours. However, in turn the women's anxiety levels could have been increased due to guilt around eating, thoughts that food was unsafe/the enemy and needed to be avoided, pressure to follow self-imposed restrictive eating patterns, and fears around weight gain. Strict post-surgery eating guidance and experience of dumping syndrome may also have contributed to anxiety, with the women all expressing practical concerns around how food had been cooked,

which could be related to post-surgical recommendations as food cooked in oil can trigger dumping syndrome.

The women described engaging in a range of restrictive eating behaviours. Factors contributing to their development have been discussed throughout, however it is likely that these behaviours were maintained through positive reinforcement via feelings of success and relief from uncomfortable physical sensations which were a consequence of the surgery, and negatively reinforced due to the women's intense fear of weight gain, and so were unable to risk letting go of the restrictive behaviours (Fairburn et al., 1999).

### **The role of relationships**

The women's lived experiences all happened in the context of various relationships, either personal or professional. These relationships were positively and negatively impacted by the surgery, and the restrictive eating behaviours were often noticed and discussed in the context of these relationships. The women reported that close relationships could be a great source of support, however when they were negatively impacted by the behaviours, the negative views that the women held about themselves were reinforced.

Post-surgery, the women described feeling alone and like people didn't really understand. This may have influenced the development of the restrictive eating behaviours, as loneliness and shyness have been associated with increased risk of developing an eating disorder later in life (Treasure & Schmidt, 2013).

Some of the women spoke about pretending to be someone else when they were overweight to hide feelings of inferiority, as well as thinking that they could not voice differing opinions to friends because they were fat. Following the surgery the women were able to act in a way that was more in tune with their sense of self, however the past feelings of inferiority may have influenced the development of the restrictive eating behaviours, having been highlighted as risk factors (Treasure & Schmidt, 2013).

### **Surgery is life changing**

The lived experience of these women was that having bariatric surgery was a life-changing decision physically, socially, and psychologically (Park, 2015). As seen in Ogden et al.'s (2006) paper, some of the women in this study described a sense of being unprepared for the changes experienced post surgery. They also spoke about expectations they had held for the surgery not being met, perhaps due to thoughts that life would improve as their weight decreased (Park, 2015; van Hout et al., 2006). The restrictive eating behaviours may have developed as a way to try and meet these goals. The need to manage expectations seemed to feed back into the negative thinking of these women, with a sense of guilt around feeling anything but happy and grateful for the surgery.

These experiences highlighted the importance of information, but also pose a question regarding information processing and cognitive biases such as confirmation bias. It is difficult to ascertain the extent to which information was not given versus how much

information was not being held in mind by the participants, as it did not fit in with their expectations or beliefs about surgery? Due to the highly emotive experiences of the women from when they were overweight, they may have interpreted the information that was given to them in an un-objective manner that supported their desires for surgery, for example that the excess skin would “snap back”. As seen in LePage’s (2010) overarching theme ‘*The paradox*’, the women in this study spoke about the difficulty of navigating the positive and negative impacts of the surgery. There was an expectation that bariatric surgery would offer a new and improved life, and the women struggled when this was not the case. In addition to this, holding positives, such as increased self-confidence, in mind while being overwhelmed by numerous worries and fears was difficult.

The frequent body monitoring that is involved in life post-surgery may have led on to the over-concern with shape and weight that is mentioned in cognitive-behavioural models of eating disorders (Fairburn, 2008; Fairburn et al., 1998). This links in with Grilo et al.’s findings (2005) that checking and avoidance behaviours were significantly associated with over-evaluation of weight and shape, and that body checking was associated with restrained eating. The monitoring that follows bariatric surgery may mimic these behaviours, triggering the restrictive eating behaviours. Grilo et al. (2005) proposed that disordered eating in this population might operate under the same core principles as seen in people with other eating disorders, including anorexia nervosa.

## **Clinical Implications**

It is still not clear if a separate diagnosis is needed for this clinical presentation. The current DSM-V criteria for Anorexia Nervosa (APA, 2013) does seem to fit the presentation seen in this study, however due to the sample size caution should be taken regarding representativeness. The women reported behaviours and cognitions that map on to Criterion A “*restriction of energy intake relative to requirements*”. Behaviours included food restriction, calorie counting, persistent thoughts about food and eating, following restrictive food rules, disliking the feeling of having food in their stomach, fearing eating, and comparing themselves to others in an attempt to decide their own appearance (Conceição et al., 2013a). The women were also reaching Excess Percent Weight Loss (%EWL) rates that were higher than expected (i.e. 80%), which maps on to Criterion A “*significantly low weight is defined as a weight that is less than minimally normal [...] less than that minimally expected*”. The fear of weight (re)gain described by these women maps on to Criterion B “*intense fear of gaining weight or of becoming fat*”. While the way that the women viewed themselves maps on to Criterion C “*disturbance in the way in which one’s body weight or shape is experienced, undue influence of body weight or shape on self-evaluation*”.

The general aims of this study have potential clinical implications.

**Study Aim 1: Can the findings of this study help generate guidelines for identifying clients who may be at risk of developing restrictive eating behaviours after bariatric surgery?**

As Conceição et al., (2013a) highlighted, the development of eating pathology after bariatric surgery is likely to be misidentified due to difficulties in distinguishing it

from necessary post-surgery dietary adjustment. It is likely that a combination of psychological vulnerability, life stressors, and factors surrounding the surgery itself might contribute to the development of anorexia nervosa following bariatric surgery (Atchison et al., 1998; Guisado et al., 2002). The themes that emerged from this qualitative study may represent helpful aspects for healthcare teams to hold in mind in the identification of bariatric surgery patients who develop restrictive eating behaviours postoperatively. This general study aim hoped to highlight some potential identifying factors for those individuals who may be at risk of developing restrictive eating behaviours, especially as there is such heterogeneity reported in the literature (Earvolino-Ramirez, 2008; Marino et al., 2012).

### ***Re-introduction of solid food***

Conceição et al. (2013b) noticed that overly restrictive behaviours started when participants' weight loss rate had slowed. The change from soft to solid foods was also a source of concern for these clients, who viewed their nutritional plans as highly calorific and increased their fear of weight regain. Wood & Ogden (2015) highlighted that in the first year physical restrictions of food intake are at their peak, however the point at which these start to settle down may be a crucial moment when clinicians need to intervene to teach adaptive coping and replacement strategies for weight-loss outcomes in the longer term.

All but one of the women noticed that their difficulties started when they began to re-introduce solid food back into their diet. This would often occur in parallel to the rapid weight loss starting to slow down. This may be due to solid food being

considered “proper food” and being associated with past difficulties with managing food and weight.

*“... as I started to be able to eat solid normal food that’s when I started to feel like I’m going to put on weight I’m going to get fat I don’t want to eat this and that”*

(Participant 2)

*“... in terms of difficulties [...] it was when I was going back to solid food solids and I was telling her about how scared I was at certain foods and they made me sick and I felt so scared”* (Participant 3)

*“... so at the very beginning when you’re on the softer foods the weight is coming off quite quickly [...] then as you heal you start having eating that little bit extra that’s when it started to kick in and that sort of happened when the solid foods came in”*

(Participant 4)

*“... introducing back into normal food erm cos to me that’s probably where the problem came from and also my weight stabilising didn’t help”* (Participant 5)

The sample size of this study means that it is hard to draw concrete conclusions, however the idea that this may be a time point at which people people may benefit from being monitored and supported more closely mirrors the findings from other studies.

### ***Imposed weight targets following bariatric surgery***

There is a debate around what is considered underweight in individuals who have had bariatric surgery. A BMI that is considered “normal” in the general population may be too low for this population following their massive weight loss. Funding guidelines for body contouring surgery may state BMI targets that do not take this into account, and are therefore unachievable. Scioscia et al. (1999) recommended that care should be taken not to praise patients for losing more weight than projected.

Participant 1 reported that her difficulties started when she was given a target weight to reach by the plastic surgeons in order to have surgery to remove her excess skin:

*“... it was from that moment the day when I came home after the appointment saying you need to get to 80 kilos and you’ve got what feels like a mountain to climb erm that was the moment at which I stopped eating I didn’t then eat anything apart from erm a glass of milk a day for pretty much the whole time I think I might have had one meal erm between that and then when I went back for the assessment”*

### ***Presence of excess skin***

There are mixed findings in the literature regarding excess skin. Some studies show that people who were satisfied with their appearance post-surgery had less weight loss than those who were dissatisfied. However, other studies suggest the opposite, that people who had lost more weight were more satisfied with their bodies (Lyons et al., 2014; van Hout et al., 2006).



Following on from the accounts in this study, it may be that the presence of excess skin is a possible risk factor for the development of restrictive eating behaviours, however the small sample size of this study needs to be held in mind. Monitoring discontent with the increasing hanging skin, thoughts regarding flawed body image, and noticing if it is persistent, not in keeping with reality, or is leading to dietary restriction, may also be a way of identifying clients who may be at risk of developing these difficulties (Bonne et al., 1996; van Hout et al., 2006).

## **Study Aim 2: Can the findings of this study influence policy and practice in this area?**

### ***Provision of Information***

*“I just thought it was normal”* (Participant 5)

The above quote highlights how the participants of this study thought there was a need to provide bariatric surgery candidates with information around eating disordered thoughts, beliefs, and behaviours. Behaviours that seem perplexing and strange can lead to a sense of powerlessness and can be a source of great distress. Suffering is often reduced when it can be located in meaning (Cassell, 1998).

Bariatric surgery services are often headed up by medically trained professionals, which could lead to a tendency to provide more medically informed information, such as surgical procedures, drug side effects and clinical outcomes. This may lead to a limited focus on more emotional and psychological factors associated with surgery.

However, it has been shown that for people seeking surgical weight loss treatment, physical appearance means more than just the physical “fat” body characteristics (Park, 2015). Therefore providing additional information and psycho-education in pre-surgical assessments, and giving space for people to think about their ‘surgery journey’, may better help meet patients’ needs, expectations and wellbeing pre and post bariatric surgery (van Hout et al., 2007). Disseminating the findings of this study, along with other qualitative inquiries, may better equip and prepare patients by helping them to gain an understanding of what it is like to undergo the surgery, as well as the challenges and successes that go with it, that may not be available in more traditional literature (Earvolino-Ramirez, 2008).

Alerting people to the possibility that they may develop difficulties after surgery could encourage more people to discuss these if they are struggling. This could include highlighting the dangers of maintaining an overly restrictive diet, as well as the difference between vomiting due to plugging or dumping syndrome and self-induced vomiting due to shape and weight concerns (Conceição et al., 2013b). Supporting people to recognise disordered eating patterns, body image distortions, and the influence of shape and weight may encourage them to access help before negative effects occur (Marino et al., 2012).

Linking in with the need for ongoing assessment mentioned below, it is important for professionals to consider that although the realities of the procedure may have been discussed during pre-surgery consultations, it is not real at the time (Wysoker, 2005). The long history of yo-yo dieting may mean that at the time of assessment people are

desperate to try another avenue to lose weight and may not have adequately digested the information presented to them.

### ***In-depth and Ongoing Assessment***

As the above sections highlight, there are numerous potential identifying factors for individuals who may be at risk of developing restrictive eating behaviours following bariatric surgery. Although the sample size of this study means that these factors may only be representative for these specific participants, the NICE guidelines for assessment and offering surgery (2014) state that “*a comprehensive assessment of any psychological or clinical factors that may affect adherence to postoperative care requirements (such as changes to diet)*” should be carried out before performing surgery.

Assessment may benefit from enquiring about patients’ past experiences of weight-related stigma (Wee et al., 2012) due to its influence on negative mood and health-care utilization. Care should also be taken when assessing surgery candidates to manage fears that divulging difficulties may compromise their suitability for bariatric surgery. Consideration should be given to factors that may make clients more vulnerable to developing anorexia nervosa, as although the eating pathology discussed in this study is an uncommon presentation, it may be a preventable one, for which early intervention can be provided. Evidence of psychopathology in the pre-surgery assessment should be referred on to appropriate mental health service and followed up post-surgery (Scioscia et al., 1999).

The findings of this study, as well as contributing theoretical concepts that have been mentioned in the development of anorexia nervosa, suggest that it may be pertinent to explore personality styles, interpersonal relationships and attitudes about the bariatric surgery. Lier et al. (2013) found that pre-operative level of shame was a significant predictor for the maintenance of psychiatric problems post bariatric surgery.

Assessment of people's expectations for surgery could include questions such as how they imagine life will be different as a thinner person, and would be helpful in eliciting unrealistic expectations (Glinski et al., 2001). Guisado et al. (2002) also identified risk factors for morbidly obese people developing anorexia nervosa. These included extreme morbid obesity, emotional withdrawal during childhood, low self-esteem, severe and rapid weight loss, intense body image dissatisfaction, social isolation, and use of food to compensate negative affects.

The presence of spontaneous or self-induced vomiting post-surgery may be due to eating certain intolerable foods, eating too quickly, not chewing food enough, or due to symptoms of plugging. Post surgical assessment of whether these behaviours are compensatory or not, should explore the reason for the vomiting, along with the person's expected outcome of the vomiting (Conceição et al., 2015). Beliefs around the vomiting should be checked regularly, in case the presence of spontaneous vomiting facilitates people to view it as a way to control their weight due to a fear of fatness (de Zwaan et al., 2010). Assessment of laxative and diuretic use should also be explored to distinguish between use for physiological reasons and weight and shape reasons.

As mentioned previously, there is limited agreement regarding what should be considered underweight in post-bariatric surgery clients. Before the change in anorexia nervosa criteria from DSM-IV to DSM-V, anorexia nervosa had been reported in post-bariatric surgery individuals. However, people with atypical anorexia (i.e. meeting the DSM-IV criteria except being below a normal BMI) had also been reported. This, along with the broad definition of low weight in DSM-V (APA, 2013), has made diagnosing anorexia nervosa in post-bariatric surgery clients difficult. To assess for the presence of anorexia a detailed examination of BMI, emotional and cognitive symptoms of anorexia, lifetime weight trajectory, current eating behaviours, as well as physical health for signs of malnutrition are all recommended (Conceição et al., 2013a; Conceição et al., 2015).

### ***Support around Excess Skin***

In line with the literature, all the participants from this study experienced the presence of excess skin following their significant weight loss. Large numbers of patients do not receive information to prepare them for the physical changes related to excess skin (Highton et al., 2012). However, the participants in this study highlight that even when candidates are aware of the likelihood of developing excess skin, the reality of it may still come as a surprise (Kitzinger et al., 2012).

Assessment of shape and weight concerns post bariatric surgery is complicated due to fear of weight regain being, in some ways, a realistic one; and due to the frequent presence of excess skin. Traditional assessments of body satisfaction may not capture the complex nuances of body dissatisfaction caused by these specific changes in body

shape (Conceição et al., 2015). Biörserud et al. (2013) understood the importance of focusing on the magnitude of the problem from the client's perspective and developed the Sahlgrenska Excess Skin Questionnaire (SESQ) to try and capture these experiences. They found that questions that were influenced by psychological factors changed more easily with mood than factors of a physical nature. A question that did not follow this trend referred to feeling that the body is unattractive because of excess skin.

The majority of the women in this study considered excess skin to be a major problem. Excess skin is clearly a barrier for some clients, highlighting that there may be a need for clinicians to engage in open discussions before surgery to outline realistic expectations – which may include highlighting that some people regret having the surgery due to the excess skin (Lyons et al., 2014; Ramalho et al., 2014; Scioscia et al., 1999). Women may be more likely to be impacted due to the common areas that are affected by excess skin typically being associated with feminine beauty (breasts, upper arms, thighs) (Kitzinger et al., 2012). Post-surgery, ongoing assessment of its impact, as well as advice and support around management of excess skin is highly recommended, especially as surgical removal is not routinely provided on the NHS (Baillot et al., 2013). The results of this study suggest that it may be beneficial to view the removal of excess skin after weight loss surgery as reconstructive, rather than an aesthetic procedure, due to the impact it has both psychologically and on quality of life. This would be in line with Highton et al.'s (2012) findings that most bariatric surgeons feel that body contouring surgery is essential for comprehensive treatment of a patient undergoing bariatric surgery. This study recommends a move towards consistency in service provisions, notably that the

NICE recommendations (2014) stating that bariatric surgery candidates are “*provided with information on, or access to plastic surgery*”, are achieved. Soldin et al. (2014) proposed some national guidelines for body contouring following significant weight loss to try and eradicate a postcode lottery and improve patient care. BAPRAS published standardized guidance for provision of body contouring following massive weight loss in England in 2014, however their 2017 draft guideline highlights that there has been low uptake of the guidelines, likely due to the devolving of funding decisions to local Clinical Commissioning Groups. This has continued the ‘postcode lottery’ and limited provision for reconstructive surgery in spite of BAPRAS and British Association of Aesthetic Plastic Surgeons (BAAPS) support. The mismatch between clinical guidelines and their inconsistent operationalisation is likely to contribute to patient distress.

### ***Flexibility in Service Provision***

Previous research highlights that “*the journey of the bariatric patient does not end with the surgery; it only begins*” (Earvolino-Ramirez, 2008, p.17). Although NHS England state that individuals should be transferred to a suitable provider at two years post-surgery (this would usually be a GP); when difficulties related to the impact of bariatric surgery are identified, services may benefit from introducing flexibility into the point at which they discharge people from their care, as some people may require specialist support for longer:

*“I do feel that [...] they can’t say ‘off you go’ to everybody”* (Participant 5)

The accounts of the women from this study, as well literature suggesting that the long-term effects of bariatric surgery may be influenced by psychosocial adjustment and compliance to appropriate eating behaviours, highlight that identification and appropriate short-term and long-term treatment of postoperative problems, such as disordered eating, could be crucial to successful outcome after bariatric surgery (van Hout et al., 2006). The surgery may appear to be the most important piece of this journey, but from the accounts of this study's participants it is possibly a smaller piece in a much larger picture (Earvolino-Ramirez, 2008). Bariatric surgery clients face medical and psychosocial challenges that require treatment for years; service provision needs to reflect that it's often only after the operation that the hard work begins (Wysoker, 2005).

Post-surgery support groups may offer a way to provide longer-term support that is less resource intensive. Talking to other people was mentioned by three of the five participants:

*"I would love to be in a position to kind of tell others about to warn them not to put them off but to warn them to prepare as I didn't personalise a lot of the information and experiences that are readily available"* (Participant 1)

*"I might be able to help someone else understand what I've been through"*

(Participant 4)



*“... you know I would quite happily say ‘pass my details on’ cos if somebody else who feels like I feel who’s struggling I’m quite happy to share things with them and talk and help them and they can help me” (Participant 5)*

The groups would have the added benefit of providing peer support due to the shared experience:

*“... it’s lovely me talking to you now but you’ve not been through it so you and it’s hard to explain how you feel whereas if somebody’s had that surgery and feels how you feel you don’t have to say it in words they know how you feel” (Participant 5)*

The presence of a support group would respond to the recommendation above regarding provision of information. Those individuals who are seeking surgery would benefit from hearing first-hand accounts about the changes they may experience from people who have had the surgery (Earvolino-Ramirez, 20008).

Support groups may lend strength to individuals who are struggling, until their own recovers (Cassell, 1998). Glinski et al. (2001) supported the availability of psychosocial services after bariatric surgery to improve adherence and provide a support network. Anecdotally they found that support groups provided an important sense of connection with and comfort from others who had also gone through the life-changing surgery. However, not everyone finds speaking to large groups of other people helpful and there are negatives to support groups. As Participant 1 highlighted, they would need to be monitored so that they did not become unhelpful places:

*“... it kind of turned into was a few people who were like racing each other for the numbers [...] the majority of what was talked about was erm how to kind of get around the operation [...] it just sounded pretty horrific and quite scary and so probably wrongly er it put me off going to the groups here in the early days like I said her’s weren’t at this hospital” (Participant 1)*

### ***The role of Psychology***

Bariatric surgery is an interdisciplinary venture involving numerous specialists, however there is normally a dominant medical narrative to services. There is a need to recognise the psychological and emotional aspects of this surgical intervention (Johnson & Haigh, 2011), and psychologists may be in the strongest position to support this. As highlighted in the super-ordinate theme ‘The role of relationships’, all participants of this study found talking to their psychologist helpful. Most bariatric teams have some psychological input, but often this is for pre-operative assessment only and there is no provision of ongoing input or intervention based input. Having psychologists who provide input beyond assessment, as part of bariatric surgery teams would likely make a significant contribution as they have different skills to other MDT members and are able to identify and address unmet psychological need (Cassell, 1998):

*“I would tell surgeons to remember that you’re not just cutting open a slice of beef and there is a person there who does have a life and that you should spend more than ten minutes with them” (Participant 1)*

The women in this study all spoke of the positive role their psychologist had played in supporting them, suggesting that they were well attuned to the needs of the women. They spoke of valuing the collaborative style and non-judgemental approach of their psychologist. It mirrored the animal metaphors that Treasure, Smith, & Crane (2007) use in their work to support those who are caring for someone with an eating disorder to improve rapport and connection. The descriptions from this study are similar to Treasure et al.'s metaphor of a dolphin: "*Dolphin may at times swim ahead, leading the way and guiding the passage, at other times swim alongside coaching and giving encouragement, and at times when Edi [the individual with the eating disorder] is making positive progress quietly swim behind*" (p.27).

Psychologists may be in a unique position to lead the discussions mentioned elsewhere in this chapter, as well as providing support after surgery in relation to exploring a person's journey into obesity; using food as a distraction for underlying negative emotions, body image, appearance, adjustment, and self acceptance (Atchison et al., 1998; Kitzinger et al., 2012; Magdaleno et al., 2011). The core training of psychologists emphasises the communication of understanding and empathy, which is essential for the development of a positive therapeutic working alliance. This may make them best placed to assess and monitor how an individual evolves physically and psychologically over time; assessing body image and body image perceptions; and formulating experiences and presentations in order to deliver tailored interventions to individuals to reduce suffering and increase resilience (Egnew, 2017; Gilmartin, 2013).

The implications of the findings for therapy are that it may be particularly helpful to explore past weight related experiences and any impact they may be having in increasing negative cognitions about the self. Psychologists may benefit from being aware of the NICE Guidelines (2017) for the treatment of anorexia nervosa, to explore fear of weight gain and support people who are engaging in restrictive eating disordered behaviours.

Van Hout et al. (2006) state that the failures of bariatric surgery are often ascribed to psychological factors and/or eating disorders, rather than technical factors. They propose that a comprehensive and multidisciplinary treatment approach, including surgical treatment and non-surgical treatment components, are viewed as essential in a bariatric treatment program. In light of this and the results from this study, it is recommended that psychology representation, which goes beyond an assessment-only model, be considered mandatory for any bariatric surgery team, however due to the number of participants in this study, the themes identified may only be representative of this sample.

### ***Considerations regarding weight loss***

Unlike other public health problems such as smoking, where the aim is to stop a behaviour entirely, obesity prevention and its promotion of healthy eating and physical activity exist on a behavioural continuum that may be unhealthy at either extreme (Schwartz & Henderson, 2009). Discussions around what comprises successful weight loss for people who have had bariatric surgery may be beneficial to avoid the development of restrictive eating behaviours (Conceição et al., 2013b;

2015). The use of a BMI of  $25\text{kg/m}^2$  as a way to calculate weight change post-surgery is likely to be too low for this population. Interestingly, BAPRAS are currently reviewing their 2014 UK Commissioning Guide For Massive Weight Loss Body Contouring; with a 2017 draft currently out for consultation. They have made changes to their general criteria for body contouring surgery – stating that individuals needed a current BMI of less than  $30.0\text{kg/m}^2$  (along with weight stability of 12 months and significant functional disturbance (both physical and psychological)). In the 2014 guide patients needed a current BMI of less than or equal to  $28.0\text{kg/m}^2$ . This increase in current BMI has also been included for apronectomy only, if people are unable to slim down to a BMI of less than  $30.0\text{kg/m}^2$  (rather than a BMI of  $28.0\text{kg/m}^2$  or less).

This study recommends broadening definitions of successful outcomes after bariatric surgery to include other factors beyond weight loss. This is in line with the growing consensus that success following bariatric surgery should not solely focus on weight loss and improvement of co-morbid medical conditions, but should also focus on psychosocial functioning and improved quality of life (van Hout et al., 2006; 2007; 2009).

## **Critical Evaluation**

### **Strengths**

The main aim of this study was to address a significant gap in the literature by exploring patients' personal journeys and providing insight into the lived experience of women who have developed restrictive eating disordered behaviours following bariatric surgery. Previously, research had not explored this aspect, being

quantitatively driven and focusing solely on descriptive data through case studies and reports.

The study built on suggestions from previous research relating to consistency in the terms and definitions used (Conceição et al., 2015). Prior to recruitment, consideration was given to the inclusion criteria and how the sample would be selected to ensure homogeneity. All women experienced the same phenomenological experience of having bariatric surgery and then developing restrictive eating disordered behaviours. Due to the small size of the clinical population some variability was inevitable. Although not stipulated in the inclusion criteria all the women who took part had undergone the same surgical procedure of a Roux-en-Y gastric bypass. The relative homogeneity of the sample strengthens confidence in the findings and increases the likelihood that the themes reflect the experience of the broader population.

To ensure high quality IPA and accordingly validity of the results, the study employed various measures. Service user involvement regarding the interview schedule ensured the questions were worded in a clear and sensitive way. Credibility checks, as outlined in the method section, maintained validity and quality of the final super-ordinate themes (Yardley, 2008). To support rigour, Smith (2011) recommends that studies with four to eight participants should provide verbatim extracts from at least half the participants per theme. In this study, each super-ordinate theme was supported with extracts from all participants. Unless highlighting a unique difference, the majority (12 out of 14) of sub-ordinate themes were also supported with transcript extracts from all participants.

Cross validation with supervisors, along with respondent validation, ensured the themes were grounded in the data and coherent. As recommended by Smith et al. (2009) the researcher kept a reflective journal to capture preconceptions, worries and thoughts throughout the process. This reflexive process was helpful in enabling the researcher to bracket off biases during the analysis.

### **Limitations**

The sample size was within the parameters recommended for professional doctorate projects using IPA (Smith et al., 2009), however a larger sample size would have contributed further to the credibility of the patterns seen across the data. Due to the sample size, the themes identified may only be representative of this sample. Although the themes fit well with other research findings, it is possible that different themes may have been obtained if a different set of participants has been interviewed.

Due to the small size of the clinical population it was decided not to place an upper limit on the number of years since surgery so as not to impede recruitment. This was decided after consulting the literature where previous studies had shown that people could present to services with disordered eating behaviours at least 26 years post surgery (Conceição et al., 2013). In this study the time elapsed since the surgery ranged from nine months to eight years. This heterogeneity resulted in the participant who had experienced surgery nine months ago being more hopeful about the future than the other participants. This creates challenges when deciding if the findings reflect the shared lived experience, or just variation within the sample. Restrictive

eating behaviours had to be current, so recall bias was not an issue. However controlling for the variation in time since surgery may have led to the findings being more generalisable. This, along with IPA's idiographic focus, means that the results of this study are specific to those women who took part and generalisation of the findings should be applied with caution. However, the themes that emerged in this study triangulate with previous research findings, suggesting that they are shared qualities of the experience of the development of restrictive eating behaviours post bariatric surgery.

Participants were recruited purposively via clinicians at a London Bariatric Service and at a service in the North of England. Purposive sampling was used as a recruitment method due to there being limited numbers of people who could serve as data sources for this study. Although this is an appropriate method, it means that there is an inability to generalize the research findings, as the results are specific to this sample from the target population. The fact that all of the available population were recruited may still mean that this is not a representative sample and could be biased. Purposive sampling eliminated a self-selecting bias by participants, as it relied on clinicians to approach women who met the inclusion criteria. It is therefore possible that women who could have taken part were not approached, leading to a greater heterogeneity of experiences being lost. It could have been useful to go through clinicians' caseloads to establish that all potential participants were approached. Smith et al. (2009) remind researchers that there "*is no such thing as a 'perfect' data collection event, and no version of events which is the 'truth' "*" (p.48). The researcher is simply aiming to try and understand the participants' perspectives as best they can.



All the women were receiving support from a psychologist within the bariatric surgery service. There is no clear model available; however a predominately CBT approach was offered, tailored to the individual and their surgery. This may have impacted on the interpretation of the findings as the women will have been exploring these difficulties in their therapy sessions, therefore the themes that came up may be different to those of people who have not received psychological help.

The nature of the research, and the methodology of data collection may have led to vulnerability for socially desirable responses from participants. The researcher tried to minimize this risk by emphasizing and reiterating their anonymity in the study. The fact that all the participants spoke about suggestions for future surgery candidates, suggests that they felt able to be honest in their interviews. In addition to this the women reported that the interview process was helpful and brought up sensitive topics themselves. This suggests that the researcher was able to create a trusting and empathic air to the interviews, which ought to have reduced the likelihood of socially desirable answers.

## **Research Implications**

There are several implications for future research that arise from this study and merit further investigation.

All of the participants in this study were female. Although this reflects the gender bias of people seeking bariatric surgery, the NBSR (2014) reported an increase in males from 16% in 2006, to 26% in 2013. In addition to this previous studies have shown

post-surgery males to present with restrictive eating behaviours (Bonne et al., 1996). Understanding further the gender differences in experience of excess weight would be helpful. Exploration of the male experience would therefore be a valuable contribution to the evidence base.

All the women in this study had undergone a Roux-en-Y Gastric Bypass. This particular form of bariatric surgery results in a rate of weight loss that is quicker than the other two commonly performed types of surgery (gastric band and sleeve gastrectomy). It may be the rapidity of the weight loss that is important in the development of this presentation, rather than the amount of weight lost. It would be helpful to explore if this presentation is seen in individuals who have had other types of bariatric surgery. In addition, not a lot is known about what should be considered as underweight in individuals following surgery. In this study significantly low weight was operationalised by a %EWL that was higher than usual for the amount of time elapsed since surgery. However, a BMI of 25 (which is used to calculate %EWL) may be too low to be considered “normal” weight for this population and may only be achieved under highly restrictive conditions. Future research would make a valuable contribution by exploring other indicators of an eating disorder, such as assessing laboratory evidence and physical findings (e.g. weakness, marked muscle mass loss, etc) for malnutrition.

The psychosocial changes following surgery have not been studied as diligently as physical changes (van Hout et al., 2006). Increasing understanding of patients’ psychosocial functioning following bariatric surgery will help support the recommendations of this study regarding increased information and improved

assessment. In addition, this would improve understanding around factors that may lead to successful outcome and support development of interventions to enhance adjustment and success following bariatric surgery.

Although beyond the scope of this research, using a longitudinal methodology and incorporating interviews at key time points in the surgery journey may lead to a comprehensive understanding of post-surgery experiences and how people adjust to the change over time. It may be interesting, for example, to interview individuals at the point of re-introducing solid food in to their diet, as this was highlighted as a time when difficulties became pronounced. Comparing the experiences of people who have developed restrictive eating behaviours to those people who have not, and exploring why some people are impacted by their past experiences and others are not, may assist in the identification of protective factors to aide adjustment.

Bariatric surgery should not just be about reducing the financial burden on the state via the reduction of obesity related illnesses. The aim should be to improve people's lives, and allow them to become a productive member of society. Further research should look at whether outcomes are improved in those who go on to have body-contouring surgery, compared to those who do not. Evidence could help support this to become a fundamental part of the bariatric surgery pathway, and move towards improving patients' unmet expectations and reduce dissatisfaction with a procedure that is intended to improve their quality of life (Highton et al., 2012; Soldin et al., 2014).

As this is such a new area, it would be useful to survey bariatric surgery staff and explore their experiences and understanding of this presentation. In light of the research around consequences of weight-based stigmatization (Friedman et al., 2008) it would be helpful to explore bariatric surgery staffs' perspectives on weight loss, which may lead to a better understanding of methods aimed at reducing weight stigma not only among health professionals but also at a societal level (Wee et al., 2012). Friedman et al. (2008) suggest that simply changing how patients are spoken to, can help reduce the effects of weight-related stigma, for example, using terms such as weight, BMI, and heaviness rather than fatness, obesity, and excess fat. Providing patients with strategies to cope with this stigma (for example cognitive restructuring) may also help reduce distress, however further research and exploration in this area is needed.

### **Personal Reflections**

I have learnt a lot about bariatric surgery during this process, being unaware of a lot of the intricacies and consequences before I started. My own ideas and assumptions have been challenged; encouraging me to be more conscious of what else may be going on for people and to be curious about the different values that people place on their body, weight, and appearance.

Throughout the study process I have been struck by participants' willingness to share their experiences with a stranger, and I feel privileged to have been an audience to their stories. It highlights how being unconditionally listened to by another person was a very meaningful experience for these women and for me as a researcher. At

times it felt difficult to prompt the women to expand further on their difficult experiences, but all participants expressed benefits from the interviews, with one lady getting in contact after her interview to reiterate her thanks in having the space to talk about her difficulties.

Being in the role of a researcher rather than a therapist was at times challenging. It was hard to not intervene with my 'psychologist hat on' when the women became tearful or when critical negative thinking was being described. However improving my skills in sitting with distress, allowing silences, and not always jumping in with solutions to 'fix' things has informed and improved my clinical practice.

I enjoyed using a qualitative approach as I felt it sat well with how psychologists work clinically. The process of undertaking an IPA informed study has had its highs and lows. Being new to the methodology was at times overwhelming and confusing, frequently resulting in self-doubt that it was not 'right'. However I have enjoyed the interpretative and stimulating process of putting the patients' voice at the forefront of clinical research and would seek out further opportunities to do this in the future.

## **Conclusions**

The current study explored the phenomenology of the experience of developing restrictive eating behaviours following bariatric surgery. Five women took part in the interviews and the transcripts were analysed using IPA.

The analysis revealed five super-ordinate themes, which captured the lived experiences of these women. '*The past and how I feel about myself*' described how the women's lives were marked by memories from the past, intense fears around weight gain, and negative thoughts about themselves. '*The impact of loose skin*' captured the impact of excess skin. '*Thoughts about food and disordered eating patterns*' described the restrictive eating behaviours that had developed and the changes in how the women viewed food after the surgery. '*The role of relationships*' depicted how the women's lived experiences occurred in the context of various relationships both professional and personal. '*Surgery is life changing*' aimed to illustrate the impact the surgery had had on these women's lives.

The study highlighted possible risk factors for this presentation such as the point at which solid foods are reintroduced back in to the diet, imposed weight targets, and the presence of excess skin. Suggestions for clinical practice included the provision of information, the need for in-depth and ongoing assessment, increased support around excess skin, flexibility in service provision, the need for a psychology presence on teams, and considerations around how surgery outcomes are measured, with a move to a more holistic approach.

In summary, the frequency of bariatric surgery is increasing, and is set to rise further as the NHS prioritises reducing obesity. It is therefore likely that the development of restrictive eating behaviours after surgery will also increase. Expanding understanding of this presentation for professionals and those seeking out surgery is essential and therefore further research is critical.

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## Appendix

### Appendix 1: NICE classification of obesity

<i>Classification</i>	<i>BMI (kg/m<sup>2</sup>)</i>
Healthy weight	18.5–24.9
Overweight	25–29.9
Obesity I	30–34.9
Obesity II	35–39.9
Obesity III	40 or more

## **Appendix 2: DSM-IV and DSM-V Criterion for Binge Eating Disorder (BED)**

### DSM-IV (APA, 2000):

In DSM-IV binge-eating disorder was not recognised as a disorder but was described in 'Appendix B: Criteria Sets and Axes Provided for Further Study' as: *Binge-eating disorder is recurrent episodes of binge eating in the absence of regular inappropriate compensatory behaviour characteristic of bulimia nervosa.*

It was diagnosable using the category of 'Eating Disorder Not Otherwise Specified' (EDNOS): *Eating disorder not otherwise specified includes disorders of eating that do not meet the criteria for any specific disorder.*

### DSM-V (APA, 2013):

- A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
  - 1. Eating, in a discrete period of time (e.g. within any 2-hour period), an amount of food that is definitely larger than what most people would eat in a similar period of time under similar circumstances.
  - 2. A sense of lack of control over eating during the episode (e.g. a feeling that one cannot stop eating or control what or how much one is eating).
- B. The binge-eating episodes are associated with three (or more) of the following:
  - 1. Eating much more rapidly than normal
  - 2. Eating until feel uncomfortably full
  - 3. Eating large amounts of food when not feeling physically hungry
  - 4. Eating alone because of feeling embarrassed by how much one is eating
  - 5. Feeling disgusted with oneself, depressed, or very guilty afterward.
- C. Marked distress regarding binge eating is present.
- D. The binge eating occurs, on average, at least once a week for 3 months.
- E. The binge eating is not associated with the recurrent use of inappropriate compensatory behaviour as in bulimia nervosa and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa.

## Appendix 3: Participant Information Sheet



[NHS TRUST LOGO]

### **Participant Information Sheet**

#### **Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery**

We would like to invite you to take part in a research study, which will focus on increasing our understanding of the experiences of people who have developed more restrictive eating patterns and fear of weight gain after bariatric surgery.

Joining the study is entirely up to you, before you decide whether to participate it is important for you to understand why the study is being done and what is involved. Please take the time to read the following information carefully, and discuss it with others if you wish.

#### **Why is the study needed?**

There is a growing body of research looking at the development of eating problems and disorders after surgery. However there has been limited focus on the increasing number of people who develop intense anxiety about their weight and restrictive eating patterns after surgery.

Distinguishing between eating disorder related thoughts and behaviours, and changes in eating patterns that are an expected consequence of bariatric surgery makes things even more complicated.

The development of problematic eating behaviours is linked with complications after surgery and has a harmful impact on psychological well being.

This project hopes to discover more about the experiences of individuals who are experiencing restrictive eating behaviours after weight loss surgery and to provide much needed information to this under-researched area. It is hoped that the information can go on to be used by professionals to develop treatment guidelines and better support pre- and post-operative bariatric clients.

#### **What does taking part in the study involve?**

A member of the Bariatric Surgery Service will introduce you to the study. Once you have had time to read through this information sheet a researcher (Charlotte Watson) will contact you to see if you would like to take part and to answer any questions you may have.

If you agree to take part you will be invited to meet with Charlotte Watson. This can either be around an existing appointment at the bariatric surgery service or at a place that is convenient for you e.g. home, place of work. At the appointment you will complete some questionnaires (this will take about 15-20minutes) and take part in a face-to-face interview (this will take 1-2hours).

The interview questions will be looking at your experience of eating and eating habits since surgery. All interviews will be typed up (transcribed). To help with this the interview will be audio-recorded. Once transcribed the recording will be deleted.

We will ask you for some basic demographic information during this meeting and may access your health records to support this e.g. age, gender, date and type of bariatric surgery. It is helpful for your GP and bariatric surgery team to be aware of your participation in the study, we will therefore inform them that you have consented to take part in the study. A note will be made on your medical records that you have agreed to take part in the study.

Approximately 6-8 participants will be invited to take part in this study in Bariatric Service across London over a period of 6 months. Once we have recruited participants we will analyse the responses and come up with common themes. We will contact you around this time to present a draft of the findings to make sure there is a good fit between the study team's interpretations and your experiences.

During your time in the study your standard care will not be affected.

#### **What will happen to the results of this study?**

At the end of the study the information collected will be analysed and published in recognised clinical research journals. The study data will be stored securely for up to 5 years for audit purposes.

The Bariatric Service will be informed of any publications. You can request to be informed of the results of this study once it has completed. The identity of the participants who took part in the study will remain confidential.

#### **Do I have to take part?**

No, it is completely up to you. If you decide to take part you will be asked to sign a consent form (see a sample copy of the consent form at the end of this information sheet). You are free to withdraw at any time, without giving a reason. Your decision to withdraw will not affect the care that you receive.

#### **Are there any benefits for me in joining the study?**

There will be no immediate direct benefit to you if you participate. However, there should be benefits to help others with a similar presentation in the future.

#### **Are there any risks for me in joining the study?**

There are no immediate risks to taking part in this study. However, the topic of the research may bring up emotional reactions. If you become distressed while completing the questionnaires or during the interview you will be signposted to the



appropriate services and linked back in with the bariatric surgery psychologist. We will inform you before any referral is made.

The details of the services that we may signpost you to are as follows:

**Samaritans**

Telephone: 116 123

Email: [jo@samaritans.org](mailto:jo@samaritans.org)

Website: [www.samaritans.org](http://www.samaritans.org)

**B-eat Eating Disorder Charity**

Telephone: 0345 634 1414

Email: [help@b-eat.co.uk](mailto:help@b-eat.co.uk)

Website: [www.b-eat.co.uk](http://www.b-eat.co.uk)

**How will information about me be kept confidential?**

We will protect your privacy at all times. The steps taken to ensure confidentiality are detailed below:

- Your data will be stored using a unique, anonymous participant identification number.
- Your data will be stored in a secure locked location. Access to this data will only be by named researcher working on the study (Charlotte Watson) and their supervisors.
- If the research is published, direct quotes may be used, however these will all be anonymous.

**Who is organising and funding the study?**

This research forms part of a thesis project for a Doctorate in Clinical Psychology at Royal Holloway University of London.

It is being sponsored by Royal Holloway, University of London.

**Who has approved the study?**

All research in the NHS is reviewed by an independent group of people, called a Research Ethics Committee, which is there to protect your safety, rights, wellbeing and dignity. This project has been reviewed and was given a favorable review by the London – Dulwich Research Ethics Committee.

**What happens if something goes wrong?**

The risk of participants suffering harm as a result of taking part in this study is minimal. Insurance cover has been provided by Royal Holloway, University of London.

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions [contact details are at the end of this document].

If you remain unhappy and wish to complain formally, you can do this by contacting the Patient Advice and Liaison Services (PALS) team:

Email: []

Telephone: []

**Expenses**

As a thank you for your time you will be given a £10 shopping voucher. In addition to this any additional travel costs will be paid (up to the cost of a capped daily Oyster card rate of £8.60).

**How have patients and the public been involved in the study?**

A service user has helped to develop this study by reviewing the Participant Information Sheet and considering what research questions should be asked.

In designing this study we have taken into account patient opinions on the questionnaires that we will ask you to fill in.

**Further information and contact details**

For more information please contact:

**Charlotte Watson**

Trainee Clinical Psychologist at Royal Holloway University of London

**Dr Denise Ratcliffe**

Consultant Clinical Psychologist and [REDACTED]  
[REDACTED]

**Dr Afsane Riazi**

Psychologist and Senior Lecturer in Health Psychology at Royal Holloway University London

Please contact us on [mobile number].

Please note this number will be regularly checked during working hours Monday – Friday, 9am – 5pm.

**Thank you for taking the time to consider taking part in this study.**



### **SAMPLE Consent Form**

#### **Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery**

Participant ID:	Please tick
I confirm that I have read the participant information sheet dated ..... (version .....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason, without my medical care or legal rights being affected.	
I agree to the use of audio taping, with possible use of anonymous verbatim (word-for-word) quotes.	
I understand and grant permission for relevant sections of my medical notes to be accessed by the study team where it is relevant to my taking part in this research.	
I understand that my data will be stored securely for up to 5 years and that individuals from Royal Holloway University, regulatory authorities, or from the NHS Trust, may look at the data where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	
I agree to my General Practitioner (GP) and Bariatric Service health care professional being informed of my participation in the study.	
I agree for the study team to contact me in the future to present a draft of the findings to make sure there is a good fit between the study team's interpretations and my experiences.	
I agree to take part in the above study.	
I would like to be informed of the results of this study once it has completed.	

\_\_\_\_\_  
Name of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name of Researcher

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

## Appendix 4: NHS Ethics Approval Letter – Favourable Opinion (2016)

  
**Health Research Authority**  
London – Dulwich Research Ethics Committee  
Health Research Authority  
Skipton House  
80 London Road  
London SE1 6LH  
Tel: 020 7104 8113  
Email: [nrescommittee.london-dulwich@nhs.net](mailto:nrescommittee.london-dulwich@nhs.net)

**Please note:** This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

16 August 2016

Miss Charlotte Watson  
Department of Psychology  
Royal Holloway University of London  
Egham Hill  
Surrey TW20 0EX

Dear Miss Watson

**Study title:** Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery  
**REC reference:** 16/LO/1213  
**Protocol number:** n/a  
**IRAS project ID:** 202719

Thank you for your email of 12 August 2016, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

We plan to publish your research summary wording for the above study on the HRA website, together with your contact details. Publication will be no earlier than three months from the date of this opinion letter. Should you wish to provide a substitute contact point, require further information, or wish to make a request to postpone publication, please contact the REC Manager, Mr Michael Higgs, [nrescommittee.london-dulwich@nhs.net](mailto:nrescommittee.london-dulwich@nhs.net).

## Appendix 5: Psychology Department Ethics Approval, Royal Holloway, University of London (2016)

### Ethics Review Details



You have chosen to self certify your project.	
Name:	Watson, Charlotte (2014)
Email:	PBVA081@live.rhul.ac.uk
Title of research project or grant:	Understanding the experiences of women after bariatric surgery
Project type:	Royal Holloway postgraduate research project/grant
Department:	Psychology
Academic supervisor:	Dr. Afsane Riazi
Email address of Academic Supervisor:	Afsane.Riazi@rhul.ac.uk
Funding Body Category:	No external funder
Funding Body:	
Start date:	18/08/2016
End date:	31/05/2017

### Declaration

By submitting this form, I declare that the questions above have been answered truthfully and to the best of my knowledge and belief, and that I take full responsibility for these responses. I undertake to observe ethical principles throughout the research project and to report any changes that affect the ethics of the project to the University Research Ethics Committee for review.

Certificate produced for user ID, PBVA081

Date:	26/08/2016 09:08
Signed by:	Watson, Charlotte (2014)
Digital Signature:	Charlotte Watson
Certificate dated:	8/26/2016 10:02:27 AM
Files uploaded:	Participant Information Sheet template V3 12.08.16.docx Consent Form template V3 28.07.16.docx

## Appendix 6: HRA Approval Letter (2016)



Health Research Authority

Miss Charlotte Watson  
Doctorate in Clinical Psychology, Department of Psychology,  
RHUL  
Egham Hill  
Egham, Surrey  
TW20 0EX

Email: [hra-approval@nhs.net](mailto:hra-approval@nhs.net)

02 September 2016

Dear Miss Watson

### Letter of HRA Approval

Study title:	Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery
IRAS project ID:	202719
Protocol number:	n/a
REC reference:	16/LQ/1213
Sponsor	Royal Holloway University of London

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

#### Participation of NHS Organisations in England

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

Appendix B provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. **Please read Appendix B carefully**, in particular the following sections:



- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* – this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* – this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

Page 1 of 8

## Appendix 7: Research and Development Approval

 **NHS**  
NHS Foundation Trust

Department of Research and Development  
  
  
  
London  

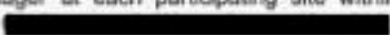

29<sup>th</sup> September 2016

Charlotte Watson  
Trainee Clinical Psychologist  
Royal Holloway University of London, Camden and Islington NHS Trust

Dear Charlotte,

**Letter of Access for Research**


**Version: University researchers who do not require an honorary research contract**

This letter should be presented to your nominated manager at each participating site within this organisation before you commence your research at  NHS Foundation Trust.

In accepting this letter,  NHS Foundation Trust confirms your right of access to conduct research through this organisation for the purpose and on the terms and conditions set out below. This right of access commences on 29/09/2016 and ends on 01/03/17 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from  NHS Foundation Trust. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from the department of research and development giving confirmation of their agreement to conduct the research.

The information supplied about your role in research at this organisation has been reviewed and you do not require an honorary research contract with this organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out. Evidence of checks should be available on request to this organisation.

You are considered to be a legal visitor to the organisation premises. You are not entitled to any form of payment or access to other benefits provided by  NHS Foundation Trust to employees and this letter does not give rise to any other relationship between you and this organisation, in particular that of an employee.

While undertaking research through this organisation you will remain accountable to your substantive employer but you are required to follow the reasonable instructions of this organisation or those instructions given on their behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

Version 1.0. 24 August 2015.  
Based upon NIHR Version 2.3.

Page 1 of 3

## Appendix 8: Consent Form

Consent Form template V3 28.07.16



[NHS TRUST LOGO]

### Consent Form

#### Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery

Participant ID:	Please tick
I confirm that I have read the participant information sheet dated ..... (version .....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason, without my medical care or legal rights being affected.	
I agree to the use of audio taping, with possible use of anonymous verbatim (word-for-word) quotes.	
I understand and grant permission for relevant sections of my medical notes to be accessed by the study team where it is relevant to my taking part in this research.	
I understand that my data will be stored securely for up to 5 years and that individuals from Royal Holloway University, regulatory authorities, or from the NHS Trust, may look at the data where it is relevant to my taking part in this research. I give permission for these individuals to have access to my data.	
I agree to my General Practitioner (GP) and Bariatric Service health care professional being informed of my participation in the study.	
I agree for the study team to contact me in the future to present a draft of the findings to make sure there is a good fit between the study team's interpretations and my experiences.	
I agree to take part in the above study.	
I would like to be informed of the results of this study once it has completed.	

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Name of Researcher	Date	Signature



## Appendix 9: GP Letter



Doctorate in Clinical Psychology  
Department of Psychology  
Royal Holloway, University of London  
Egham Hill  
Egham, Surrey  
TW20 0EX

### **PRIVATE AND CONFIDENTIAL**

[DATE]

Dear Dr []

**Re: Patient Name:**  
**Address:**

**DOB:**

**Exploring and understanding the experiences of women who develop restrictive eating behaviour after bariatric surgery  
(IRAS Project ID: 202719)**

I am writing to inform you that your patient has consented to take part in the above research study.

The purpose of the study is to increase understanding of the experiences of people who have developed more restrictive eating patterns and fear of weight gain after bariatric surgery. Participants will be invited to take part in a face-to-face interview and complete some questionnaires. This research project forms part of a thesis for a Doctorate in Clinical Psychology.

If you have any questions regarding any of the above, please feel free to contact me on [mobile number] and I will get back to as soon as possible. Please note that this number will be regularly checked during working hours Monday – Friday, 9am – 5pm. Alternatively you can email me [email address].

Yours sincerely,

Charlotte Watson  
**Trainee Clinical Psychologist at Royal Holloway, University of London**

Supervised by:  
**Dr Denise Ratcliffe**  
Consultant Clinical Psychologist and  
Head of Clinical Health Psychology  
[REDACTED]

**Dr Afsane Riazi**  
Psychologist and Senior Lecturer in  
Health Psychology at Royal Holloway  
University London

## **Appendix 10: Interview Schedule**

Thank you for agreeing to take part in this research interview. You are the expert in your experience. I am now going to ask you questions about your experiences around the bariatric surgery.

**1. To start with, what was the first thing that came to mind when you heard about this study?**

**2. Can you tell me more about how you came to the Bariatric Psychology service?**

*Prompts:* Who referred you? How did you feel about coming to the service?

**3. Can you tell me about your experience of eating in general?**

*Prompts:*

- Can you tell me about your regular pattern of eating?
- What thoughts and feelings do you have about it?
- What goes through your mind?
- How do you feel in your body?

**4. How has your experience of eating changed since having the surgery?**

*Prompts:*

- What was similar or different in what you thought about eating before the surgery?
- How would you describe your enjoyment before and after surgery?
- How do you interpret these changes?

**5. What reasons have led to you consciously trying to restrict the overall amount that you eat?**

*Prompts:*

- Can you tell me more about what you do – avoid eating? Avoid certain foods? Follow specific rules? Anything else? Vomit? Chew food and spit it out?
- How do you make sense of these habits?
- Do thoughts about weight and shape play a part in your experience of eating?
- Can you tell me more about any distress associated with this experience?

**6. Can you tell me more about your sessions with the Bariatric Psychology service?**

*Prompts:*

- What do you think about the support you have received?
- How do you think they understand your experiences of eating now?
- What was similar or different in what you thought about your problem and how the psychologist assessed it?
- What do you think would be most helpful for you? Why?

**7. Is there anything else that you would like to add or ask me?**

## Appendix 11: Hospital Anxiety and Depression Scale (HADS)

### Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.  
Don't take too long over you replies: your immediate is best.

<b>D</b>	<b>A</b>		<b>D</b>	<b>A</b>	
		<b>I feel tense or 'wound up':</b>			<b>I feel as if I am slowed down:</b>
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		<b>I still enjoy the things I used to enjoy:</b>			<b>I get a sort of frightened feeling like 'butterflies' in the stomach:</b>
0		Definitely as much	0		Not at all
1		Not quite so much	1		Occasionally
2		Only a little	2		Quite Often
3		Hardly at all	3		Very Often
		<b>I get a sort of frightened feeling as if something awful is about to happen:</b>			<b>I have lost interest in my appearance:</b>
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		<b>I can laugh and see the funny side of things:</b>			<b>I feel restless as I have to be on the move:</b>
0		As much as I always could	3		Very much indeed
1		Not quite so much now	2		Quite a lot
2		Definitely not so much now	1		Not very much
3		Not at all	0		Not at all
		<b>Worrying thoughts go through my mind:</b>			<b>I look forward with enjoyment to things:</b>
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		<b>I feel cheerful:</b>			<b>I get sudden feelings of panic:</b>
3		Not at all	3		Very often indeed
2		Not often	2		Quite often
1		Sometimes	1		Not very often
0		Most of the time	0		Not at all
		<b>I can sit at ease and feel relaxed:</b>			<b>I can enjoy a good book or radio or TV program:</b>
0		Definitely	0		Often
1		Usually	1		Sometimes
2		Not Often	2		Not often
3		Not at all	3		Very seldom

Please check you have answered all the questions

## Appendix 12: Eating Disorder Examination Questionnaire (EDE-Q)

### EATING QUESTIONNAIRE Copyright Fairburn and Beglin, 2008

**Instructions:** The following questions are concerned with the past four weeks (28 days) only. Please read each question carefully. Please answer all the questions. Thank you.

**Questions 1 to 12:** Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days) only.

On how many of the past 28 days .....	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
1 Have you been deliberately <u>trying</u> to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
2 Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5	6
3 Have you <u>tried</u> to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
4 Have you <u>tried</u> to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
5 Have you had a definite desire to have an <u>empty</u> stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5	6
6 Have you had a definite desire to have a <u>totally flat</u> stomach?	0	1	2	3	4	5	6
7 Has thinking about <u>food, eating or calories</u> made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
8 Has thinking about <u>shape or weight</u> made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
9 Have you had a definite fear of losing control over eating?	0	1	2	3	4	5	6
10 Have you had a definite fear that you might gain weight?	0	1	2	3	4	5	6
11 Have you felt fat?	0	1	2	3	4	5	6
12 Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

**Questions 13-18:** Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to the past four weeks (28 days).

**Over the past four weeks (28 days) .....**

13 Over the past 28 days, how many <u>times</u> have you eaten what other people would regard as an <u>unusually large amount of food</u> (given the circumstances)?	.....
14 ..... On how many of these times did you have a sense of having lost control over your eating (at the time that you were eating)?	.....
15 Over the past 28 days, on how many <u>DAYS</u> have such episodes of overeating occurred (i.e., you have eaten an unusually large amount of food <u>and</u> have had a sense of loss of control at the time)?	.....
16 Over the past 28 days, how many <u>times</u> have you made yourself sick (vomit) as a means of controlling your shape or weight?	.....
17 Over the past 28 days, how many <u>times</u> have you taken laxatives as a means of controlling your shape or weight?	.....
18 Over the past 28 days, how many <u>times</u> have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?	.....

**Questions 19 to 21:** Please circle the appropriate number. **Please note that for these questions the term "binge eating" means eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.**

19 Over the past 28 days, on how many days have you eaten in secret (ie, furtively)? ..... Do not count episodes of binge eating	No days	1-5 days	6-12 days	13-15 days	16-22 days	23-27 days	Every day
	0	1	2	3	4	5	6
20 On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? ..... Do not count episodes of binge eating	None of the times	A few of the times	Less than half	Half of the times	More than half	Most of the time	Every time
	0	1	2	3	4	5	6
21 Over the past 28 days, how concerned have you been about other people seeing you eat? ..... Do not count episodes of binge eating	Not at all	Slightly		Moderately		Markedly	
	0	1	2	3	4	5	6

Questions 22 to 28: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

Over the past 28 days .....	Not at all		Slightly		Moderate-ly		Markedly
22 Has your <u>weight</u> influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23 Has your <u>shape</u> influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24 How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
25 How dissatisfied have you been with your <u>weight</u> ?	0	1	2	3	4	5	6
26 How dissatisfied have you been with your <u>shape</u> ?	0	1	2	3	4	5	6
27 How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
28 How uncomfortable have you felt about <u>others</u> seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

What is your weight at present? (Please give your best estimate.) .....

What is your height? (Please give your best estimate.) .....

If female: Over the past three-to-four months have you missed any menstrual periods? .....

If so, how many? .....

Have you been taking the "pill"? .....

**THANK YOU**

## Appendix 13: Clinical Impairment Assessment Questionnaire (CIA)

### CLINICAL IMPAIRMENT ASSESSMENT QUESTIONNAIRE (CIA 3.0)

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<b>INSTRUCTIONS</b> Please place an 'X' in the column which best describes how your eating habits, exercising or feelings about your eating, shape or weight have affected your life over the past four weeks (28 days). Thank you.					
		Not at all	A little	Quite a bit	A lot
	Over the past 28 days, to what extent have your ... eating habits ... exercising ... or your feelings about your eating, shape or weight .....				
1	... made it difficult to concentrate?				
2	... made you feel critical of yourself?				
3	... stopped you going out with others?				
4	... affected your work performance (if applicable)?				
5	... made you forgetful?				
6	... affected your ability to make everyday decisions?				
7	... interfered with meals with family or friends?				
8	... made you upset?				
9	... made you feel ashamed of yourself?				
10	... made it difficult to eat out with others?				
11	... made you feel guilty?				
12	... interfered with you doing things you used to enjoy?				
13	... made you absent-minded?				
14	... made you feel a failure?				
15	... interfered with your relationships with others?				
16	... made you worry?				

## **Appendix 14: Impact of Weight on QoL – Lite (IWQOL-Lite)**

Omitted due to copyrights law



## **Appendix 15: Multidimensional Body Self-Relations Questionnaire (MBSRQ)**

Omitted due to copyrights law

## Appendix 16: Example of initial noting and emergent themes

Descriptive Comments – normal text

Linguistic Comments – *italic text*

Conceptual Comments – underlined text

Emergent Themes	Interview Transcript	Initial Noting
Relationship to help	P: Psychology oh yeah no drugs erm within the Psychology service so that was how I was introduced to [therapist] and sort of had I think a few sessions at the beginning just before erm I had the surgery and then ended up being sort of re-referred back to her a few times pretty much just from filling in the- I can't remember it wasn't the full HADS assessment but you know something similar like that about how depressed you feel are you using laxatives blah blah at follow up appointments ((clears throat)) so at medical erm well no they're both medicine but physical medical appointments erm I would fill those in and then I'd get a call from [therapist] saying 'hello would you like to come and see me?' ((laughs)) cos it's- something not quite right here' er and then yeah and just sort of off and on from- although I doubt- not that long ago about eight years which is quite a lot of time erm to be fair I do live with other mental health issues aside from ((sigh)) everything that seems to have been created almost from the bariatric surgery erm but yeah you know [therapist] has definitely been a god send	<i>No drugs – highlighting "knows" psychology</i>  How came to Psychology  Re-referred back a few times <u>How does she feel about filling in forms to get support? Rather than talking to someone?</u>  <i>Blah blah</i>
Emotional impact of surgery		<i>Laughter – diffusion of something? Difficult emotion?</i> Something not quite right here - <u>negative feeling about herself?</u> Length of time of support <u>Needing to justify support to me? Herself? Who?</u> Has other MH problems <i>Sigh – tired? Overwhelmed?</i> Issues caused by surgery Therapist is a god send
Impact of surgery		
Relationship with therapist	I: And erm how- like how how long are the times that you kind of see her for?  P: heh erm I'm wondering how much she has written down as I am pretty sure she is breaking a lot of rules ((general laughter)) er I think because she is master and commander of her own diary she get's away with quite a bit er but yeah I'm I'm pretty sure I probably shouldn't still be seeing her but erm she's great and hasn't booted me off the books er goodness so (.) ((makes raspberry noise with exhalation of breath)) this time round erm cos that's probably the easiest one for me to quantify the only reason I can say that is because it's pretty much been for the duration of my relationship with my current partner so around two and a half years erm off and on	<u>What rules? Who makes the rules?</u> <i>Master and commander of her own diary</i> Shouldn't still be seeing a therapist <u>Trying to justify/explain why still seeing therapist?</u>  <i>Booted me off the books</i>  Quantifies time with therapist in terms of relationship with partner  <u>Something about relationship with therapist</u>

## Appendix 17: Summary Table of Themes with Additional Extracts

Super-ordinate theme	Sub-ordinate theme	Additional supporting quotes
<b>The past and how I feel about myself</b>	<b>Influence of past experiences on the present</b>	<p><i>“... my childhood was very much finish everything on your plate ‘you must finish everything on your plate’ and god knows who my mum thought she was feeding a grown man I think erm still does it to this day where if I have to eat at hers it’s you know I’m sort of praying as I go in that we are missing dinner because it’s a pile on your plate an unhealthy amount of food” (Participant 1)</i></p> <p><i>“My eating didn’t really change to be honest because I was always on some sort of crazy low carb diet or high protein or what ever” (Participant 1)</i></p> <p><i>“I lost four stone on Weight Watchers I stopped buying the Weight Watchers meals and started preparing food myself even though- and I started putting on weight and then it just grew and grew and grew it’s just something I’ve always been unhappy with with my weight it’s been since I was like 13” (Participant 2)</i></p> <p><i>“I have my entire life from childhood have been a big person I’ve yo-yo dieted throughout my life to the point that sometimes I’d be a size 10 and then a size 14 and then a 18 then back to a 10 so I’ve never been at a standard weight where I’ve thought I’m happy with myself even from I think” (Participant 3)</i></p> <p><i>“I have tried everything gym swimming dieting but it all just comes back to me the way it was so for me binge eating was the answer for me you know comfort eating was the answer I was like ‘who cares I’m the way I am it’s never going to change’” (Participant 3)</i></p> <p><i>“I can live with that side of it a bit better than I could have when I was bigger because I just hated my life people used to just judge and I used to be something that I wasn’t” (Participant 4)</i></p> <p><i>“I’d get depressed and then I comfort ate so it just was a vicious circle” (Participant 4)</i></p> <p><i>“I struggled all my life with my weight you know always been overweight” (Participant 5)</i></p>

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**Fear of putting on weight and going back to before**

*“I’ve just ended up being stuck in a spiral of it’s- I haven’t I haven’t achieved my goal until I hit 80 kilos which just I’m going to presume- I got close erm I got very ill but I got close erm but yeah that’s that’s where I’m stuck and so I will drop down a bit and then go back up again”* (Participant 1)

*“... the only thing that bothers me about the numbers on the scale is seeing if I put on weight it would do my head in but I haven’t but it would crucify me”* (Participant 2)

*“I am constantly worried about putting on weight and it’s silly like last night I was eating my dinner and then just a little kind of thought comes into your head and you can’t eat no more even if you want to even if you’re hungry because you feel like it’s wrong to eat that’s how I feel like it’s wrong to eat sometimes”* (Participant 2)

*“... so I think ‘what if this portions to big for my stomach? What if this makes me sort of gain that little bit of weight for the day that I don’t need? [...] it does sometimes scare me for example if I have a a larger portion of of a snack or food in front of me I try to sort of ea- not finish it”* (Participant 3)

*“... when I do eat it’s all about you know oh weight gain weight gain weight gain”* (Participant 3)

*“It’s about the fear of putting weight on and going back to where I was”* (Participant 4)

*“I was scared to actually eat cos I kept thinking I’m going to put more weight on now I’m going to get bigger again”* (Participant 5)

**Struggling with my mind – internal battles**

*“... it’s very easy to find things that make you feel abnormal”* (Participant 1)

*“... it’s gone like so bad like the way I feel fat and that I’ve covered myself in drawings like what my like I drewed (sic.) all over my body like fat wrote all over my body that I was fat and it’s just silly”* (Participant 2)

*“... that’s what I’m finding hard to handle at the moment I can’t see it I can see it when I stand on the scales but when I look in the mirror when people take photos of me it’s still I look the same and I*

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		<p><i>cannot see no change I can't look in the mirror like full length naked I just can't it's disgusting"</i> (Participant 2)</p> <p><i>"I try to sort of I do still struggle with my my mind because my mind is telling me one thing but my stomach is telling me another so I'm kind of in between there"</i> (Participant 3)</p> <p><i>"You know it's not helping but again on the other hand I know that it's ok but like I said there's these two things on both shoulders like one says 'it's ok' and the other says 'no you know it's not' so I do struggle with that"</i> (Participant 3)</p> <p><i>"It's like sometimes I'm fighting Logical [participant] and the Illogical [participant]"</i> (Participant 4)</p> <p><i>"... it's easier to still be Fat [participant] and not feel good about herself ((sigh))"</i> (Participant 5)</p> <p><i>"I might feel ok I might go in to town and then catch sight of myself in a mirror and think 'oh my god what was you thinking?' And I'm in that car and I'm home again cos I do look and think 'I can't believe you've come out like that' [...] sometimes I'll catch sight of myself and in mirror in a shop and think 'what? Look at the state of you'"</i> (Participant 5)</p> <p><i>"I know I've done it and I know I've lost weight but when I look in the mirror I certainly haven't and I feel I haven't but I don't know whether or not it's because I've struggled for so long and now I've done it I don't know what to do with it?"</i> (Participant 5)</p> <p><i>"Fat [participant]'s there and I think she's always been there and I feel like there's two before there was a Skinnier [participant] trying to fight her way out ((laughs)) and now she's out the fat one is dragging her back"</i> (Participant 5)</p>
<b>The impact of loose skin</b>	<b>It reminds me of what I was before – excess skin as a reminder</b>	<p><i>"Perhaps I would have went for a less ((sigh)) er like a sleeve-ectomy or something where the weight loss is there but not as fast and a bit more controlled so I might have had a chance not having so much loose skin which has been the start of a lot of the external hatred"</i> (Participant 1)</p> <p><i>"... for me the hanging skin it's always there a reminder of what it was before what I was like before"</i></p>

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(Participant 3)

*“I think it’s more of a reminder I think that’s a good word cos every time I have food even if it’s not you know fattening food even if it’s a healthy salad but I eat a bigger portion of it I’m thinking ‘oh look at that look at the lower torso that’s what it will do to you’” (Participant 3)*

*“It’s like a vicious circle that I’m on when I think about the weight and the skin reminds me of the weight but then I hate the skin because of the way it makes me feel about myself” (Participant 4)*

**You can’t tell I’ve lost weight because of it – excess skin hides weight loss**

*“It all comes down to the this bit of the torso where it hangs so for me it leads all back to the way I look” (Participant 3)*

*“I won’t now I’m thinner quite considerably I’ve like 10 like I was size 30 now I’m like a size I’d normally be a sort of 16 but I’ll buy bigger clothes to hide the excess skin and it’s a massive difference in size of clothes and you’d think you’d be proud most people would just wouldn’t be bothered but I can’t it’s made me worse about the way I look at my body really” (Participant 4)*

*“...whereas before I didn’t hate the it’s weird because before when I was bigger cos the skin wasn’t saggy I didn’t hate my body as much so I wasn’t as bothered about walking around in front of my husband naked when I was bigger because it didn’t it was filled sort of thing but now it just hangs there I hate it more” (Participant 4)*

*“It’s like a vicious circle that I’m on when I think about the weight and the skin reminds me of the weight but then I hate the skin because of the way it makes me feel about myself” (Participant 4)*

*“Yes its there and yes my stomach hangs does it bother me not at all no I’m not my boobs have dropped cos obviously I’ve lost quite a lot of my boobs I’m 55 I’ve been married 36 years you know I’ve been with my husband since I was 14 I’m not bothered I am what I am we’re all going to go old and wrinkle so no it doesn’t er that doesn’t bother me at all” (Participant 5)*

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	<b>I look like melted candle woman – excess skin is unsightly</b>	<p><i>“They can look into getting help for me getting my excess skin removed and that that do you know what that when she said that that was like someone told me I’d just won the lottery or something” (Participant 2)</i></p> <p><i>“For me that plays a really big part and like you said if I wouldn’t be able in the future to get that removed that type of surgery I think it will have some sort of impact on me I think mentally [...] I don’t want all this positivity that I’ve gained now be you know be vanished with a sweep of you can’t have that [...] it will have a bad sort of impact on me as a person” (Participant 3)</i></p> <p><i>“I still have issues with depression due to the way I look with the excess skin [...] I just don’t like looking at myself in mirrors and stuff” (Participant 4)</i></p> <p><i>“It’s when you see yourself naked or when you’re running a bath and your arms over the bath and you see your arms that it brings it all back [...] but it’s I do hate it I hated my arms before the surgery and I hate them even more now sort of thing” (Participant 4)</i></p> <p><i>“You know I do understand what people say about the skin but we don’t walk around naked do we you can hide it really” (Participant 5)</i></p>
<b>Thoughts about food and disordered eating patterns</b>	<b>The way I feel about food</b>	<p><i>“... things that I will allow myself to eat because I can’t have anything else cos anything else is you know like not deserved that kind of mentality” (Participant 1)</i></p> <p><i>“... my pattern is if I get silly thoughts in my mind- when I’ve eaten something I have to distract myself like so if I eat and sit down there’s no way I’ll keep it down because I’ll eat and I’ll think and then my mind runs away with me” (Participant 2)</i></p> <p><i>“... and then just a little kind of thought comes into your head and you can’t eat no more even if you want to even if you’re hungry because you feel like it’s wrong to eat that’s how I feel like it’s wrong to eat sometimes” (Participant 2)</i></p> <p><i>“I feel so bad each and every single time that I have eaten the things that in my mind I shouldn’t have been eating” (Participant 3)</i></p>

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**Disordered eating  
behaviours**

*“... it’s my perception of it so I know I’m eating quite a healthy diet erm but sometimes in my head even something healthy is bad” (Participant 4)*

*“... that I don’t know how much fat’s in it don’t know what the calorie content is of it erm don’t know how it’s cooked whether there’s a lot of cream in it if there’s a lot of sweeteners in it how much honey and stuff goes in it” (Participant 4)*

*“... my relationship with food is quite poor really” (Participant 5)*

*“It is exceptionally disordered [...] I’m sort of collecting misbehaviourled eating patterns” (Participant 1)*

*“Heaven forbid there is a bit of oil that goes in it erm when I’m not being ridiculous I’m very well aware of how restrictive and un-enjoyable that will be erm but when I am focused that is how it has to be” (Participant 1)*

*“I don’t like making myself sick cos I hate it but I feel I have to sometimes I feel like I have to [...] gets all the food out of my belly that’s what- being sick erm the only thing it achieves for me is getting all the food out of my belly prevents me from putting on weight” (Participant 2)*

*“I never ever feel hungry never feel hungry I only eat if I eat I mainly eat because my partner’s telling me to eat he’s telling me ‘you need to eat something’ but if it was just me here I probably wouldn’t eat cos I don’t feel hungry” (Participant 2)*

*“There was a time and point that I thought I want to stay away from erm carbohydrates which I did for a while and that’s when I was told by both [therapist] and the dieticians that my body does need some kind of carbohydrates from time to time and I cannot cut it out entirely” (Participant 3)*

*“I leave half of it and I’m still craving it but I leave it and I’m still not satisfied and I think ‘no that will help me because you know I will get a better shape and you know less calories so the weight you know the weight I wouldn’t have the weight gain of what I would eat’ for example if I eat erm two*

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		<p><i>more spoonfuls of that pasta or two more spoonfuls of that curry you know if I leave that then it would be two less spoonfuls of weight on me” (Participant 3)</i></p> <p><i>“They tried to make me have more food and put snacks in because I was really restrictive” (Participant 4)</i></p> <p><i>“It’s easier sometimes to avoid food cos I don’t think I’m doing myself any good by trying to clear it out as quick as I can” (Participant 5)</i></p> <p><i>“... had something to eat and it was the food was stuck before I even tasted it it wasn’t good and so it’s the first time I’d done it I made myself sick I went to the toilet because it was stuck and I just couldn’t eat it” (Participant 5)</i></p> <p><i>“I was skipping meals then it was see if I can go all day without anything to eat you know and then perhaps eat something at night” (Participant 5)</i></p>
<b>The role of relationships</b>	<b>Relationship with therapist</b>	<p><i>“I would never tell someone not to have the surgery but I <u>would</u> tell them to get a lot more psychological support before they go under the knife” (Participant 1)</i></p> <p><i>“It may well be that her approach to me is the same she has with every patient but it feels quite personalised erm and that it works for me and to me and that she’s listening to me and responding to my needs” (Participant 1)</i></p> <p><i>“Even if she can’t understand me in personal how I feel but she understands around and ways to help things” (Participant 2)</i></p> <p><i>“I feel that me being able to talk to [therapist] has helped me throughout even before surgery” (Participant 3)</i></p> <p><i>“Being able to speak to [therapist] about past experiences or the experiences that I’m having now with food and with emotions has helped me quite a lot” (Participant 3)</i></p>

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	<i>“I think she is very good in explaining um things to me and sort of taking away those worries that I have” (Participant 3)</i>
	<i>“When I’m having a really bad day I sit and I think about all the things that we’ve been through with [past therapist] and [therapist] and it’s helped me get passed some of the days where it’s been bad” (Participant 4)</i>
	<i>“It was brilliant before and it got me to my surgery and it helped me [...] it made me recognise that obviously I had a problem” (Participant 5)</i>
<b>Relationship with help and other professionals</b>	<i>“I think it’s just about empathy and connection connecting with people” (Participant 1)</i>
	<i>“I think what’s frustrating with the style of the NHS is generally speaking if you want to access anything you have to go through your GP erm and these aren’t easy things to talk about at the best of times” (Participant 1)</i>
	<i>“Cos I didn’t care I didn’t want to tell them I didn’t feel the need that it was necessary to tell them” (Participant 2)</i>
	<i>“Oh the support has been great as soon I realised I had the problem I phoned them up erm said ‘I’ve started making myself sick’ and they got me in straight away [...] they were there for that support even just to talk situations through and why in my head it was thingy it was so bad they didn’t give me the answers they led me to me own sort of conclusion to make me question my beliefs with actual evidence” (Participant 4)</i>
	<i>“The fact that they were helpful and recommended that yeah I was relieved cos I don’t know what I’d have done” (Participant 5)</i>
<b>Relationship with others</b>	<i>“... having an argument with my partner who is just a bit sick and tired of me hiding in my car waiting until I’m pretty sure that she’s made the dinner and then just coming in and saying ‘oh actually I’m full I had a late lunch’” (Participant 1)</i>

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		<p><i>“In my own mind I don’t make sense of it cos it’s hard to tell anyone because they no one knows really because like I don’t know people say to me ‘you’ve lost so much weight’ yeah and in my mind it doesn’t- it’s not- like I haven’t I still look the same it’s so hard to like get a grips on like trying to explain to someone how you feel about yourself” (Participant 2)</i></p> <p><i>“... you know so it I don’t want that for my child whatsoever and it’s my motherly instincts cos cos I was bullied for being a certain weight I don’t want that for my child” (Participant 3)</i></p> <p><i>“I knew what I was doing was wrong instantly when I started making myself sick because I’d seen my sister go through it and that’s when I said ‘I can’t go through doing that all the time’ and I highlighted it so although I hadn’t been through it I knew it was wrong so that’s why I went for help straight away” (Participant 4)</i></p> <p><i>“... it helps a lot <u>now</u> because I don’t want her to grow up with food issues so I’m trying to get on top of it before she realises so her being here has helped stop the purging as much because I’ll try and distract myself by either having something to eat and then playing with her it’s worse when she’s not around [...]I just can’t stop myself when she’s not there she seems to stop me from doing that” (Participant 4)</i></p> <p><i>“I’m struggling socially” (Participant 5)</i></p>
<b>Surgery is life changing</b>	<b>Positive and negative impacts of surgery</b>	<p><i>“Pre the bypass er I didn’t really have- it sounds kind of rich to say because I had a bypass but I didn’t particularly have disordered eating like I ate healthy amounts” (Participant 1)</i></p> <p><i>“I feel sad now and I didn’t then I used to be happy I’m not now” (Participant 2)</i></p> <p><i>“I don’t want to dwell on the past I want to focus on what I have now which is you know a new me a new body” (Participant 3)</i></p> <p><i>“... she [a friend] said ‘just put your memories on the board’ and I think actually if I was a size 24 would I have done that that that and that? And the answer would be no to all of them” (Participant 5)</i></p>

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**Managing expectations  
– the holistic value of  
this operation**

*“... I can walk into a shop a normal shop and buy normal clothes now” (Participant 5)*

*“... its just numbers evidence to prove that however much it cost for that operation was worth it rather than what’s the holistic cost and value rather than using the word cost what’s the holistic value of this operation” (Participant 1)*

*“Actually the health benefits of having a gastric bypass out weight the health consequences the physical health consequences of having excess skin” (Participant 1)*

*“No no I wasn’t I wasn’t told that I was going to have so much excess skin I was told that I was going to have a little tiny bit they said it would probably go back to normal because you’re only young it aint going no where” (Participant 2)*

*“I imagined that I’d be happier with myself I imagined I’d be able to feel content with my own body and I still aint so (.) to me it was a waste of time” (Participant 2)*

*“So [therapist]’s job is sort of like she said to sort of get me prepared sort of in my state of mind to to sort of how do I say it? To sort of get me ready for what’s coming” (Participant 3)*

*“... at the same time I always say ‘ok life goes on yes I’ve had the surgery I’ve gone under the knife and everything but I can still lead a life I can still have that odd bit of crisps or that odd bit of you know chocolate pie or whatever I can still do that’” (Participant 3)*

*“They did expect me when- after the surgery to lose about 11 to 10 to 11 stone but I lost 14 because of the restrictiveness and now if I took all that portion away where I was restricting and this is where I was I’m about right I’ve lost about 11 to 12 now so [...] I’m where I should have been but to me cos I was lighter I feel massive” (Participant 4)*

*“I thought ‘oh I’m just going to be fine’ after the operation ‘I’m going have the excess skin that might be an issue’ I never thought in a month of Sundays that I’d develop an eating issue the total opposite to what I was before I never thought that would happen to me but it did” (Participant 4)*

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**Importance of  
information - it's very  
easy to find things that  
make you feel abnormal**

*"Definitely my mood is I feel better (.) I'm in a different place than I was when I was heavier definitely yeah I feel more confident"* (Participant 5)

*"... it's scary if you Google it ((laughs)) there's a lot of very strange information that's available"*  
(Participant 1)

*"I knew the signs because of my sister but if you're not someone who's seen that you might think that's just part and parcel of going through [the surgery]"* (Participant 4)

*"I think it's making people aware of different signs to look for"* (Participant 4)

*"I didn't realise that it was something that was happening to other people who have had the surgery"*  
(Participant 5)

*"I was ignoring it but I only because I didn't think I knew there was a problem but I didn't think it was normal I thought I was the only one"* (Participant 5)

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## **Appendix 18: EDE-Q Community Norm Scores**

EDE-Q Community Norms (n=241) (Fairburn & Beglin, 1994):

Global EDE-Q = Mean 1.554, SD 1.213

Restraint subscale = Mean 1.251, SD 1.323

Eating Concern subscale = Mean 0.624, SD 0.859

Shape Concern subscale = Mean 2.149, SD 1.602

Weight Concern subscale = Mean 1.587, SD 1.369

## **Appendix 19: MBSRQ Adult Norms and Subscale Interpretations**

MBSRQ Adult Norms: Appearance Evaluation (AE) = Mean 3.36, SD 0.87; Appearance Orientation (AO) = Mean 3.91, SD 0.60; Fitness Evaluation (FE) = Mean 3.48, SD 0.97; Fitness Orientation (FO) = Mean 3.20, SD 0.85; Health Evaluation (HE) = Mean 3.86, SD 0.80; Health Orientation (HO) = Mean 3.75, SD 0.70; Illness Orientation (IO) = Mean 3.21, SD 0.84; Body Areas Satisfaction (BAS) = Mean 3.23, SD 0.74; Overweight Preoccupation (OP) = Mean 3.03, SD 0.96; Self-Classified Weight (SCW) = Mean 3.57 SD 0.73

**APPEARANCE EVALUATION:** Feelings of physical attractiveness or unattractiveness; satisfaction or dissatisfaction with one's looks. High scorers feel mostly positive and satisfied with their appearance; low scorers have a general unhappiness with their physical appearance.

**APPEARANCE ORIENTATION:** Extent of investment in one's appearance. High scorers place more importance on how they look, pay attention to their appearance, and engage in extensive grooming behaviours. Low scorers are apathetic about their appearance; their looks are not especially important and they do not expend much effort to "look good".

**FITNESS EVALUATION:** Feelings of being physically fit or unfit. High scorers regard themselves as physically fit, "in shape", or athletically active and competent. Low scorers feel physically unfit, "out of shape", or athletically unskilled. High scorers value fitness and are actively involved in activities to enhance or maintain their fitness. Low scorers do not value physical fitness and do not regularly incorporate exercise activities into their lifestyle.

**FITNESS ORIENTATION:** Extent of investment in being physically fit or athletically competent. High scorers value fitness and are actively involved in activities to enhance or maintain their fitness. Low scorers do not value physical fitness and do not regularly incorporate exercise activities into their lifestyle.

**HEALTH EVALUATION:** Feelings of physical health and/or the freedom from physical illness. High scorers feel their bodies are in good health. Low scorers feel unhealthy and experience bodily symptoms of illness or vulnerability to illness.

**HEALTH ORIENTATION:** Extent of investment in a physically healthy lifestyle. High scorers are "health conscious" and try to lead a healthy lifestyle. Low scorers are more apathetic about their health.

**ILLNESS ORIENTATION:** Extent of reactivity to being or becoming ill. High scorers are alert to personal symptoms of physical illness and are apt to seek medical attention. Low scorers are not especially alert or reactive the physical symptoms of illness.

**BODY AREAS SATISFACTION SCALE:** Explores satisfaction with discrete aspects of one's appearance. High composite scorers are generally content with most areas of their body. Low scorers are unhappy with the size or appearance of several areas.

**OVERWEIGHT PREOCCUPATION:** This scale assesses a construct reflecting fat anxiety, weight vigilance, dieting, and eating restraint.

**SELF-CLASSIFIED WEIGHT:** This scale reflects how one perceives and labels one's weight, from very underweight to very overweight.